

Alexey Zaikin

List of Publications by Year in descending order

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Version: 2024-02-01

127
papers

3,607
citations

168829

31
h-index

175968

55
g-index

135
all docs

135
docs citations

135
times ranked

4560
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | A proteomic survival predictor for COVID-19 patients in intensive care. , 2022, 1, e0000007. | | 28 |
| 2 | Astrocytes mediate analogous memory in a multi-layer neuron-astrocyte network. Neural Computing and Applications, 2022, 34, 9147-9160. | 3.2 | 20 |
| 3 | A mathematical model of in vitro hepatocellular cholesterol and lipoprotein metabolism for hyperlipidemia therapy. PLoS ONE, 2022, 17, e0264903. | 1.1 | 0 |
| 4 | Estimating integrated information in bidirectional neuron-astrocyte communication. Physical Review E, 2021, 103, 022410. | 0.8 | 15 |
| 5 | Venn diagrams and probability in clinical research. SeĀenovskij Vestnik, 2021, 11, 5-14. | 0.3 | 1 |
| 6 | Impact of modular mitochondrial epistatic interactions on the evolution of human subpopulations. Mitochondrion, 2021, 58, 111-122. | 1.6 | 2 |
| 7 | Modelling working memory in neuron-astrocyte network. , 2021, , . | | 1 |
| 8 | A time-resolved proteomic and prognostic map of COVID-19. Cell Systems, 2021, 12, 780-794.e7. | 2.9 | 125 |
| 9 | Ensemble of correlation, parenclitic and synolytic graphs as a tool to detect universal changes in complex biological systems. Physics of Life Reviews, 2021, 38, 120-123. | 1.5 | 2 |
| 10 | Unraveling Ca^{2+} -Mediated Multi-Pathway Calcium Dynamics in Astrocytes: Implications for Alzheimer's Disease Treatment From Simulations. Frontiers in Physiology, 2021, 12, 767892. | 1.3 | 8 |
| 11 | Parenclitic and Synolytic Networks Revisited. Frontiers in Genetics, 2021, 12, 733783. | 1.1 | 2 |
| 12 | Development of PancRISK, a urine biomarker-based risk score for stratified screening of pancreatic cancer patients. British Journal of Cancer, 2020, 122, 692-696. | 2.9 | 32 |
| 13 | Brain aging and garbage cleaning. Seminars in Immunopathology, 2020, 42, 647-665. | 2.8 | 40 |
| 14 | Short-term memory in neuron-astrocyte network. , 2020, , . | | 2 |
| 15 | Integrated Information in the Spiking-ĀBursting Stochastic Model. Entropy, 2020, 22, 1334. | 1.1 | 12 |
| 16 | Multi-Marker Longitudinal Algorithms Incorporating HE4 and CA125 in Ovarian Cancer Screening of Postmenopausal Women. Cancers, 2020, 12, 1931. | 1.7 | 18 |
| 17 | The Human Body as a Super Network: Digital Methods to Analyze the Propagation of Aging. Frontiers in Aging Neuroscience, 2020, 12, 136. | 1.7 | 24 |
| 18 | Expanding TREC and KREC Utility in Primary Immunodeficiency Diseases Diagnosis. Frontiers in Immunology, 2020, 11, 320. | 2.2 | 12 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Improved early detection of ovarian cancer using longitudinal multimarker models. British Journal of Cancer, 2020, 122, 847-856. | 2.9 | 60 |
| 20 | Editorial: Multiscale Modeling of Rhythm, Pattern and Information Generation: from Genome to Physiome. Frontiers in Physiology, 2020, 11, 281. | 1.3 | 0 |
| 21 | Modelling Neural Activity. , 2020, , 61-66. | | 0 |
| 22 | Complex and Surprising Dynamics in Gene Regulatory Networks. , 2020, , 147-187. | | 0 |
| 23 | Modelling Complex Phenomena in Physiology. , 2020, , 189-237. | | 0 |
| 24 | Constructive Effects of Noise. , 2020, , 87-146. | | 0 |
| 25 | Network markers of DNA methylation in neurodegenerative diseases. , 2020, , . | | 1 |
| 26 | Astrocyte-induced positive integrated information in neuron-astrocyte ensembles. Physical Review E, 2019, 99, 012418. | 0.8 | 30 |
| 27 | Integrated Information as a Measure of Cognitive Processes in Coupled Genetic Repressilators. Entropy, 2019, 21, 382. | 1.1 | 6 |
| 28 | Symmetry in cancer networks identified: Proposal for multicancer biomarkers. Network Science, 2019, 7, 541-555. | 0.8 | 5 |
| 29 | Current detection rates and time-to-detection of all identifiable <i>BRCA</i> carriers in the Greater London population. Journal of Medical Genetics, 2018, 55, 538-545. | 1.5 | 45 |
| 30 | Sonographers' self-reported visualization of normal postmenopausal ovaries on transvaginal ultrasound is not reliable: results of expert review of archived images from UKCTOCS. Ultrasound in Obstetrics and Gynecology, 2018, 51, 401-408. | 0.9 | 10 |
| 31 | Inflammaging 2018: An update and a model. Seminars in Immunology, 2018, 40, 1-5. | 2.7 | 76 |
| 32 | CalciumCV: Computer Vision Software for Calcium Signaling in Astrocytes. Lecture Notes in Computer Science, 2018, , 168-179. | 1.0 | 6 |
| 33 | Sensitivity of asymmetric rate-dependent critical systems to initial conditions: Insights into cellular decision making. Physical Review E, 2018, 98, 022317. | 0.8 | 2 |
| 34 | A quantitative performance study of two automatic methods for the diagnosis of ovarian cancer. Biomedical Signal Processing and Control, 2018, 46, 86-93. | 3.5 | 16 |
| 35 | Comparison of Longitudinal CA125 Algorithms as a First-Line Screen for Ovarian Cancer in the General Population. Clinical Cancer Research, 2018, 24, 4726-4733. | 3.2 | 39 |
| 36 | Parentlitic networks for predicting ovarian cancer. Oncotarget, 2018, 9, 22717-22726. | 0.8 | 28 |

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| 37 | Change-point of multiple biomarkers in women with ovarian cancer. Biomedical Signal Processing and Control, 2017, 33, 169-177. | 3.5 | 13 |
| 38 | Multiplexing topologies and time scales: The gains and losses of synchrony. Physical Review E, 2017, 96, 052214. | 0.8 | 13 |
| 39 | Decision Making in an Intracellular Genetic Classifier. Mathematical Modelling of Natural Phenomena, 2017, 12, 30-42. | 0.9 | 2 |
| 40 | A comparison of Monte Carlo-based Bayesian parameter estimation methods for stochastic models of genetic networks. PLoS ONE, 2017, 12, e0182015. | 1.1 | 6 |
| 41 | Parental Network Analysis of Methylation Data for Cancer Identification. PLoS ONE, 2017, 12, e0169661. | 1.1 | 18 |
| 42 | Mirror node correlations tuning synchronization in multiplex networks. Physical Review E, 2017, 96, 062301. | 0.8 | 8 |
| 43 | Aberrant regulation of RANKL/OPG in women at high risk of developing breast cancer. Oncotarget, 2017, 8, 3811-3825. | 0.8 | 45 |
| 44 | Systems Medicine of Cancer: Bringing Together Clinical Data and Nonlinear Dynamics of Genetic Networks. Computational and Mathematical Methods in Medicine, 2016, 2016, 1-2. | 0.7 | 0 |
| 45 | Synthetic biology routes to bio-artificial intelligence. Essays in Biochemistry, 2016, 60, 381-391. | 2.1 | 34 |
| 46 | Interplay of degree correlations and cluster synchronization. Physical Review E, 2016, 94, 062202. | 0.8 | 16 |
| 47 | Sex hormone measurements using mass spectrometry and sensitive extraction radioimmunoassay and risk of estrogen receptor negative and positive breast cancer: Case control study in UK Collaborative Cancer Trial of Ovarian Cancer Screening (UKCTOCS). Steroids, 2016, 110, 62-69. | 0.8 | 16 |
| 48 | Dynamical decision making in a genetic perceptron. Physica D: Nonlinear Phenomena, 2016, 318-319, 112-115. | 1.3 | 8 |
| 49 | Solving problems of clustering and classification of cancer diseases based on DNA methylation data. Pattern Recognition and Image Analysis, 2016, 26, 176-180. | 0.6 | 1 |
| 50 | Detection of epigenomic network community oncomarkers. Annals of Applied Statistics, 2016, 10, . | 0.5 | 5 |
| 51 | Open source approaches to establishing <i>Roseobacter</i> clade bacteria as synthetic biology chassis for biogeoeengineering. PeerJ, 2016, 4, e2031. | 0.9 | 7 |
| 52 | Serial Patterns of Ovarian Cancer Biomarkers in a Prediagnosis Longitudinal Dataset. BioMed Research International, 2015, 2015, 1-6. | 0.9 | 22 |
| 53 | Effect of Noise in Intelligent Cellular Decision Making. PLoS ONE, 2015, 10, e0125079. | 1.1 | 8 |
| 54 | Multi-Input Distributed Classifiers for Synthetic Genetic Circuits. PLoS ONE, 2015, 10, e0125144. | 1.1 | 13 |

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|----|--|-----|-----------|
| 55 | Variations in the Intragene Methylation Profiles Hallmark Induced Pluripotency. <i>BioMed Research International</i> , 2015, 2015, 1-9. | 0.9 | 0 |
| 56 | Pattern Selection: The Importance of "How You Get There". <i>Biophysical Journal</i> , 2015, 108, 1307-1308. | 0.2 | 6 |
| 57 | Serum CA19-9 Is Significantly Upregulated up to 2 Years before Diagnosis with Pancreatic Cancer: Implications for Early Disease Detection. <i>Clinical Cancer Research</i> , 2015, 21, 622-631. | 3.2 | 158 |
| 58 | Leptin induces upregulation of sphingosine kinase 1 in oestrogen receptor-negative breast cancer via Src family kinase-mediated, janus kinase 2-independent pathway. <i>Breast Cancer Research</i> , 2014, 16, 426. | 2.2 | 68 |
| 59 | Complex and unexpected dynamics in simple genetic regulatory networks. <i>International Journal of Modern Physics B</i> , 2014, 28, 1430006. | 1.0 | 6 |
| 60 | Cancer-associated autoantibodies to MUC1 and MUC4: A blinded case-control study of colorectal cancer in UK collaborative trial of ovarian cancer screening. <i>International Journal of Cancer</i> , 2014, 134, 2180-2188. | 2.3 | 49 |
| 61 | Stochastic resonance in an intracellular genetic perceptron. <i>Physical Review E</i> , 2014, 89, 032716. | 0.8 | 14 |
| 62 | Fractional calculus model of GATA-switching for regulating the differentiation of a hematopoietic stem cell. <i>Advances in Difference Equations</i> , 2014, 2014, . | 3.5 | 2 |
| 63 | A DNA Methylation Network Interaction Measure, and Detection of Network Oncomarkers. <i>PLoS ONE</i> , 2014, 9, e84573. | 1.1 | 26 |
| 64 | The sex hormone system in carriers of BRCA1/2 mutations: a case-control study. <i>Lancet Oncology</i> , The, 2013, 14, 1226-1232. | 5.1 | 98 |
| 65 | Asymmetry in Erythroid-Myeloid Differentiation Switch and the Role of Timing in a Binary Cell-Fate Decision. <i>Frontiers in Immunology</i> , 2013, 4, 426. | 2.2 | 10 |
| 66 | Decision making in noisy bistable systems with time-dependent asymmetry. <i>Physical Review E</i> , 2013, 87, 012715. | 0.8 | 7 |
| 67 | Early detection of cancer in the general population: a blinded case-control study of p53 autoantibodies in colorectal cancer. <i>British Journal of Cancer</i> , 2013, 108, 107-114. | 2.9 | 73 |
| 68 | Corruption of the Intra-Gene DNA Methylation Architecture Is a Hallmark of Cancer. <i>PLoS ONE</i> , 2013, 8, e68285. | 1.1 | 19 |
| 69 | Parameter Estimation Methods for Chaotic Intercellular Networks. <i>PLoS ONE</i> , 2013, 8, e79892. | 1.1 | 5 |
| 70 | Association of serum sex steroid receptor bioactivity and sex steroid hormones with breast cancer risk in postmenopausal women. <i>Endocrine-Related Cancer</i> , 2012, 19, 137-147. | 1.6 | 36 |
| 71 | NOISE AND OSCILLATIONS IN BIOLOGICAL SYSTEMS: MULTIDISCIPLINARY APPROACH BETWEEN EXPERIMENTAL BIOLOGY, THEORETICAL MODELLING AND SYNTHETIC BIOLOGY. <i>International Journal of Modern Physics B</i> , 2012, 26, 1246009. | 1.0 | 2 |
| 72 | Speed-Dependent Cellular Decision Making in Nonequilibrium Genetic Circuits. <i>PLoS ONE</i> , 2012, 7, e32779. | 1.1 | 25 |

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|----|---|-----|-----------|
| 73 | Interplay between Path and Speed in Decision Making by High-Dimensional Stochastic Gene Regulatory Networks. PLoS ONE, 2012, 7, e40085. | 1.1 | 13 |
| 74 | Abstract 3643: Early detection of cancer in the general population - a blinded case control study of p53 auto-antibodies in colorectal cancer in UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS)., 2012, , . | | 0 |
| 75 | Systems Biology and Longevity: An Emerging Approach to Identify Innovative Anti- Aging Targets and Strategies. Current Pharmaceutical Design, 2010, 16, 802-813. | 0.9 | 76 |
| 76 | In silico analysis of microdomain-mediated trimer formation in the T cell membrane. European Physical Journal: Special Topics, 2010, 187, 21-30. | 1.2 | 0 |
| 77 | Network, degeneracy and bow tie. Integrating paradigms and architectures to grasp the complexity of the immune system. Theoretical Biology and Medical Modelling, 2010, 7, 32. | 2.1 | 71 |
| 78 | The 20S Proteasome Splicing Activity Discovered by SpliceMet. PLoS Computational Biology, 2010, 6, e1000830. | 1.5 | 63 |
| 79 | Timing Cellular Decision Making Under Noise via Cell-Cell Communication. PLoS ONE, 2009, 4, e4872. | 1.1 | 47 |
| 80 | Towards quantitative prediction of proteasomal digestion patterns of proteins. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01009. | 0.9 | 5 |
| 81 | Dynamics of Multicellular Synthetic Gene Networks. World Scientific Lecture Notes in Complex Systems, 2009, , 33-58. | 0.1 | 1 |
| 82 | Nonlocal electron transport and cross-resistance peak in NSN heterostructures. JETP Letters, 2008, 87, 140-144. | 0.4 | 9 |
| 83 | Modeling the in Vitro 20S Proteasome Activity: The Effect of PA28 and of the Sequence and Length of Polypeptides on the Degradation Kinetics. Journal of Molecular Biology, 2008, 377, 1607-1617. | 2.0 | 28 |
| 84 | Effect of Stochastic Resonance on Bone Loss in Osteopenic Conditions. Physical Review Letters, 2008, 100, 128101. | 2.9 | 19 |
| 85 | Quantized cycling time in artificial gene networks induced by noise and intercell communication. Physical Review E, 2007, 76, 020901. | 0.8 | 10 |
| 86 | Multistability and Clustering in a Population of Synthetic Genetic Oscillators via Phase-Repulsive Cell-to-Cell Communication. Physical Review Letters, 2007, 99, 148103. | 2.9 | 206 |
| 87 | Inherent multistability in arrays of autoinducer coupled genetic oscillators. Physical Review E, 2007, 75, 031916. | 0.8 | 82 |
| 88 | Stochastic suppression of gene expression oscillators under intercell coupling. Physical Review E, 2007, 75, 031917. | 0.8 | 15 |
| 89 | Noise-memory induced excitability and pattern formation in oscillatory neural models. Physical Review E, 2006, 73, 026216. | 0.8 | 15 |
| 90 | Optimal Length Transportation Hypothesis to Model Proteasome Product Size Distribution. Journal of Biological Physics, 2006, 32, 231-243. | 0.7 | 5 |

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|-----|--|-----|-----------|
| 91 | INFLUENCE OF TRANSPORT RATES ON THE PROTEIN DEGRADATION BY PROTEASOMES. Biophysical Reviews and Letters, 2006, 01, 375-386. | 0.9 | 6 |
| 92 | Noise-induced inhibitory suppression of frequency-selective stochastic resonance. Physical Review E, 2006, 74, 046220. | 0.8 | 11 |
| 93 | Peptide-size-dependent active transport in the proteasome. Europhysics Letters, 2005, 69, 725-731. | 0.7 | 8 |
| 94 | Quantification of spatial structure of human proximal tibial bone biopsies using 3D measures of complexity. Acta Astronautica, 2005, 56, 820-830. | 1.7 | 7 |
| 95 | Bistability and noise-enhanced velocity of rolling motion. Europhysics Letters, 2005, 69, 371-377. | 0.7 | 7 |
| 96 | MODELING BONE RESORPTION IN 2D CT AND 3D CT IMAGES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2005, 15, 2995-3009. | 0.7 | 2 |
| 97 | Signal propagation in oscillatory media enabled by noise-induced excitability. , 2004, 5471, 102. | | 0 |
| 98 | Vibrational resonance and vibrational propagation in excitable systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 312, 348-354. | 0.9 | 172 |
| 99 | Microseism oscillations: from deterministic to noise-driven models. Chaos, Solitons and Fractals, 2003, 16, 195-210. | 2.5 | 8 |
| 100 | Oscillatory amplification of stochastic resonance in excitable systems. Physical Review E, 2003, 68, 026214. | 0.8 | 82 |
| 101 | Experimental evidence, numerics, and theory of vibrational resonance in bistable systems. Physical Review E, 2003, 67, 066119. | 0.8 | 159 |
| 102 | Doubly Stochastic Coherence via Noise-Induced Symmetry in Bistable Neural Models. Physical Review Letters, 2003, 90, 030601. | 2.9 | 61 |
| 103 | Noise-Induced Excitability in Oscillatory Media. Physical Review Letters, 2003, 91, 180601. | 2.9 | 62 |
| 104 | Coherence resonance and polymodality in inhibitory coupled excitable oscillators. Physical Review E, 2003, 67, 066202. | 0.8 | 17 |
| 105 | Twofold role of noise in doubly stochastic effects. , 2003, , . | | 1 |
| 106 | System Size Resonance in Coupled Noisy Systems and in the Ising Model. Physical Review Letters, 2002, 88, 050601. | 2.9 | 163 |
| 107 | DOUBLY STOCHASTIC EFFECTS. Fluctuation and Noise Letters, 2002, 02, L157-L168. | 1.0 | 1 |
| 108 | NOISE-ENHANCED PROPAGATION OF BICHROMATIC SIGNALS. Fluctuation and Noise Letters, 2002, 02, L47-L52. | 1.0 | 9 |

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| 109 | Vibrational resonance in a noise-induced structure. <i>Physical Review E</i> , 2002, 66, 011106. | 0.8 | 98 |
| 110 | Fluctuational transport of a Brownian particle in ratchet-like gravitational potential field. <i>Chaos, Solitons and Fractals</i> , 2002, 13, 109-113. | 2.5 | 0 |
| 111 | Noise-induced effects on the chaotic advection of fluid flow. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2002, 297, 396-401. | 0.9 | 3 |
| 112 | Additive noise in noise-induced nonequilibrium transitions. <i>Chaos</i> , 2001, 11, 570-580. | 1.0 | 15 |
| 113 | Effect of the potential shape and of a Brownian particle mass on noise-induced transport. <i>Chaos, Solitons and Fractals</i> , 2001, 12, 1459-1471. | 2.5 | 8 |
| 114 | Noise Induced Propagation in Monostable Media. <i>Physical Review Letters</i> , 2001, 88, 010601. | 2.9 | 75 |
| 115 | Simple electronic circuit model for doubly stochastic resonance. <i>Physical Review E</i> , 2001, 63, 020103. | 0.8 | 31 |
| 116 | Doubly Stochastic Resonance. <i>Physical Review Letters</i> , 2000, 85, 227-231. | 2.9 | 129 |
| 117 | Influence of additive noise on transitions in nonlinear systems. <i>Physical Review E</i> , 2000, 61, 4809-4820. | 0.8 | 17 |
| 118 | TURBULENCE AND COHERENT STRUCTURES IN SUBSONIC SUBMERGED JETS: CONTROL OF THE TURBULENCE. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1999, 09, 397-414. | 0.7 | 12 |
| 119 | Nonequilibrium first-order phase transition induced by additive noise. <i>Physical Review E</i> , 1999, 60, R6275-R6278. | 0.8 | 49 |
| 120 | On-off intermittency phenomena in a pendulum with a randomly vibrating suspension axis. <i>Chaos, Solitons and Fractals</i> , 1998, 9, 157-169. | 2.5 | 17 |
| 121 | Influence of additive noise on noise-induced phase transitions in nonlinear chains. <i>Chaos, Solitons and Fractals</i> , 1998, 9, 1367-1372. | 2.5 | 26 |
| 122 | Spatial patterns induced by additive noise. <i>Physical Review E</i> , 1998, 58, 4355-4360. | 0.8 | 55 |
| 123 | Control of noise-induced oscillations of a pendulum with a randomly vibrating suspension axis. <i>Physical Review E</i> , 1997, 56, 1465-1470. | 0.8 | 28 |
| 124 | Modeling Qualitative Changes in Bimanual Movements. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1997, 07, 1441-1450. | 0.7 | 5 |
| 125 | Nonequilibrium noise-induced phase transitions in simple systems. <i>Journal of Experimental and Theoretical Physics</i> , 1997, 84, 197-208. | 0.2 | 17 |
| 126 | Noise-induced phase transitions in a pendulum with a randomly vibrating suspension axis. <i>Physical Review E</i> , 1996, 54, 3535-3544. | 0.8 | 54 |

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|-----|--|----|-----------|
| 127 | Constructing a Virtual Proteasome. , 0, , 373-400. | | 0 |