

# Boian S Alexandrov

## List of Publications by Year in descending order

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Version: 2024-02-01

63  
papers

1,467  
citations

361413  
20  
h-index

345221  
36  
g-index

68  
all docs

68  
docs citations

68  
times ranked

1629  
citing authors

#	ARTICLE	IF	CITATIONS
1	DNA breathing dynamics in the presence of a terahertz field. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2010, 374, 1214-1217.	2.1	143
2	Mammalian Stem Cells Reprogramming in Response to Terahertz Radiation. <i>PLoS ONE</i> , 2010, 5, e15806.	2.5	109
3	A Rare Functional Noncoding Variant at the GWAS-Implicated MIR137/MIR2682 Locus Might Confer Risk to Schizophrenia and Bipolar Disorder. <i>American Journal of Human Genetics</i> , 2014, 95, 744-753.	6.2	91
4	Specificity and Heterogeneity of Terahertz Radiation Effect on Gene Expression in Mouse Mesenchymal Stem Cells. <i>Scientific Reports</i> , 2013, 3, 1184.	3.3	78
5	Non-thermal effects of terahertz radiation on gene expression in mouse stem cells. <i>Biomedical Optics Express</i> , 2011, 2, 2679.	2.9	73
6	Unsupervised phase mapping of X-ray diffraction data by nonnegative matrix factorization integrated with custom clustering. <i>Npj Computational Materials</i> , 2018, 4, .	8.7	70
7	Nonnegative/Binary matrix factorization with a D-Wave quantum annealer. <i>PLoS ONE</i> , 2018, 13, e0206653.	2.5	68
8	A nonlinear dynamic model of DNA with a sequence-dependent stacking term. <i>Nucleic Acids Research</i> , 2009, 37, 2405-2410.	14.5	61
9	Temperature behavior of NaI(Tl) scintillation detectors. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2009, 607, 432-438.	1.6	59
10	DNA dynamics play a role as a basal transcription factor in the positioning and regulation of gene transcription initiation. <i>Nucleic Acids Research</i> , 2010, 38, 1790-1795.	14.5	59
11	Contaminant source identification using semi-supervised machine learning. <i>Journal of Contaminant Hydrology</i> , 2018, 212, 134-142.	3.3	46
12	Bubble statistics and dynamics in double-stranded DNA. <i>Physical Review E</i> , 2006, 74, 050901.	2.1	45
13	Blind source separation for groundwater pressure analysis based on nonnegative matrix factorization. <i>Water Resources Research</i> , 2014, 50, 7332-7347.	4.2	43
14	DNA breathing dynamics distinguish binding from nonbinding consensus sites for transcription factor YY1 in cells. <i>Nucleic Acids Research</i> , 2012, 40, 10116-10123.	14.5	39
15	Toward a Detailed Description of the Thermally Induced Dynamics of the Core Promoter. <i>PLoS Computational Biology</i> , 2009, 5, e1000313.	3.2	35
16	Ultra-violet light induced changes in DNA dynamics may enhance TT-dimer recognition. <i>DNA Repair</i> , 2006, 5, 863-867.	2.8	31
17	Feigenbaum cascade of discrete breathers in a model of DNA. <i>Physical Review E</i> , 2011, 83, 011904.	2.1	29
18	Profiling the Thermodynamic Softness of Adenoviral Promoters. <i>Biophysical Journal</i> , 2008, 95, 597-608.	0.5	25

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19	Pre-melting dynamics of DNA and its relation to specific functions. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 034107.	1.8	25
20	Binding of Nucleoid-Associated Protein Fis to DNA Is Regulated by DNA Breathing Dynamics. <i>PLoS Computational Biology</i> , 2013, 9, e1002881.	3.2	23
21	Identification of release sources in advection–diffusion system by machine learning combined with Green’s function inverse method. <i>Applied Mathematical Modelling</i> , 2018, 60, 64-76.	4.2	20
22	Promoter polymorphisms in two overlapping 6p25 genes implicate mitochondrial proteins in cognitive deficit in schizophrenia. <i>Molecular Psychiatry</i> , 2012, 17, 1328-1339.	7.9	19
23	The genomic and epigenomic evolutionary history of papillary renal cell carcinomas. <i>Nature Communications</i> , 2020, 11, 3096.	12.8	19
24	Unsupervised Machine Learning for Analysis of Phase Separation in Ternary Lipid Mixture. <i>Journal of Chemical Theory and Computation</i> , 2019, 15, 6343-6357.	5.3	18
25	Distributed non-negative matrix factorization with determination of the number of latent features. <i>Journal of Supercomputing</i> , 2020, 76, 7458-7488.	3.6	17
26	Nonnegative tensor factorization for contaminant source identification. <i>Journal of Contaminant Hydrology</i> , 2019, 220, 66-97.	3.3	15
27	Finding the Number of Latent Topics With Semantic Non-Negative Matrix Factorization. <i>IEEE Access</i> , 2021, 9, 117217-117231.	4.2	15
28	Robust accidental nodes and zeros and critical quasiparticle scaling in iron-based multiband superconductors. <i>Physical Review B</i> , 2011, 84, .	3.2	13
29	Evaluating the role of coherent delocalized phonon-like modes in DNA cyclization. <i>Scientific Reports</i> , 2017, 7, 9731.	3.3	13
30	Branching transport model of NaI(Tl) alkali-halide scintillator. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2008, 586, 432-438.	1.6	12
31	Temperature dependence of nonlinearity and pulse shape in a doped NaI(Tl) scintillator. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 579, 34-37.	1.6	10
32	Nonnegative Matrix Factorization for identification of unknown number of sources emitting delayed signals. <i>PLoS ONE</i> , 2018, 13, e0193974.	2.5	10
33	Robust effect of metabolic syndrome on major metabolic pathways in the myocardium. <i>PLoS ONE</i> , 2019, 14, e0225857.	2.5	9
34	Dynamical Model of Drug Accumulation in Bacteria: Sensitivity Analysis and Experimentally Testable Predictions. <i>PLoS ONE</i> , 2016, 11, e0165899.	2.5	8
35	Nonnegative tensor decomposition with custom clustering for microphase separation of block copolymers. <i>Statistical Analysis and Data Mining</i> , 2019, 12, 302-310.	2.8	8
36	Metabolomics and the pig model reveal aberrant cardiac energy metabolism in metabolic syndrome. <i>Scientific Reports</i> , 2020, 10, 3483.	3.3	8

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37	DNA Dynamics Is Likely to Be a Factor in the Genomic Nucleotide Repeats Expansions Related to Diseases. PLoS ONE, 2011, 6, e19800.	2.5	8
38	The role of structural parameters in DNA cyclization. BMC Bioinformatics, 2016, 17, 68.	2.6	7
39	Increased irrigation water salinity enhances nitrate transport to deep unsaturated soil. Vadose Zone Journal, 2020, 19, e20041.	2.2	7
40	Semantic Nonnegative Matrix Factorization with Automatic Model Determination for Topic Modeling. , 2020, , .		7
41	A neural network for determination of latent dimensionality in Nonnegative Matrix Factorization. Machine Learning: Science and Technology, 0, , .	5.0	7
42	Nonlinearity in DNA and its Relation to Specific Functions. Journal of Biological Physics, 2009, 35, 31-41.	1.5	6
43	Non-Negative Matrix Factorization for Selection of Near-Native Protein Tertiary Structures. , 2019, , .		6
44	Identification of anomalous diffusion sources by unsupervised learning. Physical Review Research, 2020, 2, .	3.6	5
45	Distributed Non-Negative Tensor Train Decomposition. , 2020, , .		5
46	New generation enrichment monitoring technology for gas centrifuge enrichment plants. , 2008, , .		4
47	Entropyâ€Driven Conformations Controlling DNA Functions. Springer Series in Materials Science, 2012, , 273-292.	0.6	4
48	Lifshitz correlation in the hopping conductivity of high-temperature superconductors in the localized state. Physica C: Superconductivity and Its Applications, 1992, 201, 126-130.	1.2	3
49	Effect of Temperature on Counting Measurements in a Uranium Enrichment Monitor Based on a NaI(Tl) Spectrometer and Transmission Source. , 2006, , .		3
50	Neutron and gamma discrimination by compensation of long components in liquid scintillators. , 2007, , .		3
51	Boolean Matrix Factorization via Nonnegative Auxiliary Optimization. IEEE Access, 2021, 9, 117169-117177.	4.2	3
52	Determination of latent dimensionality in international trade flow. Machine Learning: Science and Technology, 2020, 1, 045017.	5.0	3
53	General-purpose Unsupervised Cyber Anomaly Detection via Non-negative Tensor Factorization. Digital Threats Research and Practice, 2023, 4, 1-28.	2.4	3
54	Anharmonic dynamics of intramolecular hydrogen bonds driven by DNA breathing. Physical Review E, 2012, 86, 061913.	2.1	2

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55	An Out of Memory tSVD for Big-Data Factorization. IEEE Access, 2020, 8, 107749-107759.	4.2	2
56	Decoy Selection in Protein Structure Determination via Symmetric Non-negative Matrix Factorization. , 2020, , .		2
57	Factorization of Binary Matrices: Rank Relations, Uniqueness and Model Selection of Boolean Decomposition. ACM Transactions on Knowledge Discovery From Data, 0, , .	3.5	2
58	Electronics and signal processing for prompt radiation. , 2007, , .		1
59	Improved Protein Decoy Selection via Non-Negative Matrix Factorization. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2021, PP, 1-1.	3.0	1
60	Automatic Model Determination for Quaternion NMF. IEEE Access, 2021, 9, 152243-152249.	4.2	1
61	The cardiac molecular setting of metabolic syndrome in pigs reveals disease susceptibility and suggests mechanisms that exacerbate COVID-19 outcomes in patients. Scientific Reports, 2021, 11, 19752.	3.3	1
62	Nonnegative canonical tensor decomposition with linear constraints: nnCANDELINC. Numerical Linear Algebra With Applications, 2022, 29, .	1.6	1
63	Coarse-grain cluster analysis of tensors with application to climate biome identification. Machine Learning: Science and Technology, 2020, 1, 045020.	5.0	0