Igor Sazonov

List of Publications by Year
in descending order

41 papers	576 citations	623734 14 h-index	677142 22 g-index
42 all docs	42 docs citations	42 times ranked	527 citing authors

#	Article	IF	Citations
1	Sensitivity of SARS-CoV-2 Life Cycle to IFN Effects and ACE2 Binding Unveiled with a Stochastic Model. Viruses, 2022, 14, 403.	3.3	3
2	Automating fractional flow reserve (FFR) calculation from CT scans: A rapid workflow using unsupervised learning and computational fluid dynamics. International Journal for Numerical Methods in Biomedical Engineering, 2022, 38, e3559.	2.1	3
3	Towards enabling a cardiovascular digital twin for human systemic circulation using inverse analysis. Biomechanics and Modeling in Mechanobiology, 2021, 20, 449-465.	2.8	51
4	Markov Chain-Based Stochastic Modelling of HIV-1 Life Cycle in a CD4 T Cell. Mathematics, 2021, 9, 2025.	2.2	11
5	Intracellular Life Cycle Kinetics of SARS-CoV-2 Predicted Using Mathematical Modelling. Viruses, 2021, 13, 1735.	3.3	15
6	Viral Infection Dynamics Model Based on a Markov Process with Time Delay between Cell Infection and Progeny Production. Mathematics, 2020, 8, 1207.	2.2	7
7	Artificial intelligence approaches to predict coronary stenosis severity using non-invasive fractional flow reserve. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2020, 234, 1337-1350.	1.8	9
8	Graph Theory for Modeling and Analysis of the Human Lymphatic System. Mathematics, 2020, 8, 2236.	2.2	11
9	Modeling of the HIV-1 Life Cycle in Productively Infected Cells to Predict Novel Therapeutic Targets. Pathogens, 2020, 9, 255.	2.8	18
10	A novel, FFT-based one-dimensional blood flow solution method for arterial network. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1311-1334.	2.8	8
11	A semiâ€active human digital twin model for detecting severity of carotid stenoses from head vibrationâ€"A coupled computational mechanics and computer vision method. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3180.	2.1	48
12	Estimating the accuracy of a reducedâ€order model for the calculation of fractional flow reserve (FFR). International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2908.	2.1	54
13	An improved method of computing geometrical potential force (GPF) employed in the segmentation of 3D and 4D medical images. Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, 2017, 5, 287-296.	1.9	1
14	Integrated geometric and mechanical analysis of an image-based lymphatic valve. Journal of Biomechanics, 2017, 64, 172-179.	2.1	6
15	A novel method for non-invasively detecting the severity and location of aortic aneurysms. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1225-1242.	2.8	28
16	A novel modelling approach to energy transport in a respiratory system. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2854.	2.1	3
17	Critical Issues in Modelling Lymph Node Physiology. Computation, 2017, 5, 3.	2.0	10
18	Random migration processes between two stochastic epidemic centers. Mathematical Biosciences, 2016, 274, 45-57.	1.9	3

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19	Segmentation of biomedical images using active contour model with robust image feature and shape prior. International Journal for Numerical Methods in Biomedical Engineering, 2014, 30, 232-248.	2.1	23
20	Flowâ€induced ATP release in patientâ€specific arterial geometries â€" a comparative study of computational models. International Journal for Numerical Methods in Biomedical Engineering, 2013, 29, 1038-1056.	2.1	13
21	Image Gradient Based Level Set Methods in 2D and 3D. Lecture Notes in Computational Vision and Biomechanics, 2013, , 101-120.	0.5	1
22	Segmenting Carotid in CT Using Geometric Potential Field Deformable Model. Springer Proceedings in Mathematics and Statistics, 2013, , 149-162.	0.2	0
23	Efficient Geometrical Potential Force Computation for Deformable Model Segmentation. Lecture Notes in Computer Science, 2013, , 104-113.	1.3	0
24	Numerical Prediction of Heat Transfer Patterns in a Subject-Specific Human Upper Airway. Journal of Heat Transfer, 2012, 134, .	2.1	8
25	Semiâ€automatic surface and volume mesh generation for subjectâ€specific biomedical geometries. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 133-157.	2.1	21
26	Influences of domain extensions to a moderately stenosed patientâ€specific carotid bifurcation. International Journal of Numerical Methods for Heat and Fluid Flow, 2011, 21, 952-979.	2.8	7
27	Scan-Based Flow Modelling in Human Upper Airways. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2011, , 241-280.	1.0	0
28	Critical reaction time during a disease outbreak. Ecological Complexity, 2011, 8, 326-335.	2.9	2
29	A two-stage model for the SIR outbreak: Accounting for the discrete and stochastic nature of the epidemic at the initial contamination stage. Mathematical Biosciences, 2011, 234, 108-117.	1.9	16
30	Geometrically Induced Force Interaction for Three-Dimensional Deformable Models. IEEE Transactions on Image Processing, 2011, 20, 1373-1387.	9.8	27
31	Patient-specific blood flow simulation through an aneurysmal thoracic aorta with a folded proximal neck. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 1167-1184.	2.1	14
32	Modelling pipeline for subjectâ€specific arterial blood flowâ€"A review. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 1868-1910.	2.1	34
33	Extracting 3D Structures from Biomedical Data. , 2011, , .		0
34	Travelling waves in a network of SIR epidemic nodes with an approximation of weak coupling. Mathematical Medicine and Biology, 2011, 28, 165-183.	1.2	8
35	Geometric Potential Force for the Deformable Model. , 2009, , .		9
36	The Speed of Epidemic Waves in a One-Dimensional Lattice of SIR Models. Mathematical Modelling of Natural Phenomena, 2008, 3, 28-47.	2.4	24

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37	Comparison of Two Explicit Time Domain Unstructured Mesh Algorithms for Computational Electromagnetics. Computational Methods in Applied Sciences (Springer), 2008, , 95-112.	0.3	2
38	Generating the Voronoi-Delaunay Dual Diagram for Co-Volume Integration Schemes. , 2007, , .		8
39	A stitching method for the generation of unstructured meshes for use with co-volume solution techniques. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 1826-1845.	6.6	40
40	Smooth Delaunay-VoronoÃ¯ Dual Meshes for Co-Volume Integration Schemes. , 2006, , 529-541.		7
41	Quasi-modes in boundary-layer-type flows. Part 2. Large-time asymptotics of broadband inviscid small-amplitude two-dimensional perturbations. Journal of Fluid Mechanics, 2003, 488, 245-282.	3.4	3