

Yuri V Vassilevski

List of Publications by Year in descending order

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128
papers

1,864
citations

331670

21
h-index

302126

39
g-index

139
all docs

139
docs citations

139
times ranked

896
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of algorithms for estimating blood flow velocities in cerebral arteries based on the transport information of contrast agent: An in silico study. <i>Computers in Biology and Medicine</i> , 2022, 141, 105040.	7.0	2
2	Automatic detection of attachment sites for knee ligaments and tendons on CT images. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022, 17, 393-402.	2.8	3
3	Finite volume method for coupled subsurface flow problems, II: Poroelasticity. <i>Journal of Computational Physics</i> , 2022, 462, 111225.	3.8	6
4	A finite element scheme for the numerical solution of the Navier–Stokes/Biot coupled problem. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2022, 37, 159-174.	0.6	2
5	Model-based analysis of the sensitivities and diagnostic implications of FFR and CFR under various pathological conditions. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2021, 37, e3257.	2.1	20
6	Personalized Geometric Modeling of a Human Knee: Data, Algorithms, Outcomes. <i>Smart Innovation, Systems and Technologies</i> , 2021, , 213-222.	0.6	1
7	An implicit scheme for simulation of free surface non-Newtonian fluid flows on dynamically adapted grids. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2021, 36, 165-176.	0.6	1
8	Application of Hyperelastic Nodal Force Method to Evaluation of Aortic Valve Cusps Coaptation: Thin Shell vs. Membrane Formulations. <i>Mathematics</i> , 2021, 9, 1450.	2.2	4
9	Numerical Modelling of Multicellular Spheroid Compression: Viscoelastic Fluid vs. Viscoelastic Solid. <i>Mathematics</i> , 2021, 9, 2333.	2.2	3
10	Two-scale haemodynamic modelling for patients with Fontan circulation. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2021, 36, 267-278.	0.6	1
11	A mathematical model to quantify the effects of platelet count, shear rate, and injury size on the initiation of blood coagulation under venous flow conditions. <i>PLoS ONE</i> , 2020, 15, e0235392.	2.5	18
12	Analysis of Operating Modes for Left Ventricle Assist Devices via Integrated Models of Blood Circulation. <i>Mathematics</i> , 2020, 8, 1331.	2.2	1
13	Parallel Finite Volume Computation on General Meshes. , 2020, , .		29
14	Comparison of Instantaneous Wave-Free Ratio (iFR) and Fractional Flow Reserve (FFR) with respect to Their Sensitivities to Cardiovascular Factors: A Computational Model-Based Study. <i>Journal of Interventional Cardiology</i> , 2020, 2020, 1-12.	1.2	14
15	Non-invasive fractional flow reserve: a comparison of one-dimensional and three-dimensional mathematical modeling effectiveness. <i>Cardiovascular Therapy and Prevention (Russian Federation)</i> , 2020, 19, 2303.	1.4	3
16	Numerical Simulation of Blood Flow in Aorta with Dilation: A Comparison between Laminar and LES Modeling Methods. <i>CMES - Computer Modeling in Engineering and Sciences</i> , 2020, 124, 509-526.	1.1	5
17	Parallel BILU2-Based Iterative Solution of Linear Systems in Reservoir Simulation: Do Optimal Parameters Exist?. <i>Communications in Computer and Information Science</i> , 2020, , 74-85.	0.5	0
18	INMOST Platform for Parallel Multi-physics Applications: Multi-phase Flow in Porous Media and Blood Flow Coagulation. <i>Communications in Computer and Information Science</i> , 2020, , 226-236.	0.5	0

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19	Analysis of the impact of left ventricular assist devices on the systemic circulation. Russian Journal of Numerical Analysis and Mathematical Modelling, 2020, 35, 295-314.	0.6	1
20	A stable method for 4D CT-based CFD simulation in the right ventricle of a TGA patient. Russian Journal of Numerical Analysis and Mathematical Modelling, 2020, 35, 315-324.	0.6	2
21	Title is missing!. , 2020, 15, e0235392.		0
22	Title is missing!. , 2020, 15, e0235392.		0
23	Title is missing!. , 2020, 15, e0235392.		0
24	Title is missing!. , 2020, 15, e0235392.		0
25	Title is missing!. , 2020, 15, e0235392.		0
26	Title is missing!. , 2020, 15, e0235392.		0
27	Noninvasive coronary CT angiography-derived fractional flow reserve: A benchmark study comparing the diagnostic performance of four different computational methodologies. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3235.	2.1	35
28	Finite volume method for coupled subsurface flow problems, I: Darcy problem. Journal of Computational Physics, 2019, 395, 298-306.	3.8	12
29	INMOST Parallel Platform for Mathematical Modeling and Applications. Communications in Computer and Information Science, 2019, , 230-241.	0.5	7
30	Multiscale models of blood flow in the compliant aortic bifurcation. Applied Mathematics Letters, 2019, 93, 98-104.	2.7	21
31	Automatic segmentation algorithms and personalized geometric modelling for a human knee. Russian Journal of Numerical Analysis and Mathematical Modelling, 2019, 34, 361-367.	0.6	4
32	Mathematical modelling of atherosclerosis. Mathematical Modelling of Natural Phenomena, 2019, 14, 603.	2.4	17
33	Numerical assessment of coaptation for auto-pericardium based aortic valve cusps. Russian Journal of Numerical Analysis and Mathematical Modelling, 2019, 34, 277-287.	0.6	2
34	Analysis and assessment of a monolithic FSI finite element method. Computers and Fluids, 2019, 179, 277-288.	2.5	19
35	Noninvasive assessment of the fractional reserve of coronary blood flow with a one-dimensional mathematical model. Preliminary results of the pilot study. Russian Journal of Cardiology, 2019, 24, 60-68.	1.4	7
36	A splitting method for free surface flows over partially submerged obstacles. Russian Journal of Numerical Analysis and Mathematical Modelling, 2018, 33, 95-110.	0.6	2

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37	A quasi-Lagrangian finite element method for the Navier–Stokes equations in a time-dependent domain. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 333, 55-73.	6.6	15
38	A hybrid finite volume – finite element method for bulk–surface coupled problems. <i>Journal of Computational Physics</i> , 2018, 352, 516-533.	3.8	15
39	Sensitivity of Coronary Flow Reserve to Cardiovascular Parameters: A Computational Model-Based Study. , 2018, , .		2
40	Numerical simulation of aberrated medical ultrasound signals. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2018, 33, 277-288.	0.6	7
41	A multi-scale model of the coronary circulation applied to investigate transmural myocardial flow. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2018, 34, e3123.	2.1	26
42	Two methods of surface tension treatment in free surface flow simulations. <i>Applied Mathematics Letters</i> , 2018, 86, 236-242.	2.7	4
43	Finite Element Models of Hyperelastic Materials Based on a New Strain Measure. <i>Differential Equations</i> , 2018, 54, 971-978.	0.7	7
44	LU factorizations and ILU preconditioning for stabilized discretizations of incompressible Navier–Stokes equations. <i>Numerical Linear Algebra With Applications</i> , 2017, 24, e2085.	1.6	6
45	An adaptive numerical method for free surface flows passing rigidly mounted obstacles. <i>Computers and Fluids</i> , 2017, 148, 56-68.	2.5	8
46	A finite element method for the Navier-Stokes equations in moving domain with application to hemodynamics of the left ventricle. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2017, 32, .	0.6	12
47	A finite volume scheme with improved well modeling in subsurface flow simulation. <i>Computational Geosciences</i> , 2017, 21, 1023-1033.	2.4	4
48	Numerical modelling of medical ultrasound: phantom-based verification. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2017, 32, .	0.6	6
49	Concise formulas for strain analysis of soft biological tissues. <i>Differential Equations</i> , 2017, 53, 908-915.	0.7	5
50	A Nonlinear Correction FV Scheme for Near-Well Regions. <i>Springer Proceedings in Mathematics and Statistics</i> , 2017, , 507-516.	0.2	1
51	Ani3D-Extension of Parallel Platform INMOST and Hydrodynamic Applications. <i>Communications in Computer and Information Science</i> , 2017, , 219-228.	0.5	1
52	A Hybrid Finite Volume–Finite Element Method for Modeling Flows in Fractured Media. <i>Springer Proceedings in Mathematics and Statistics</i> , 2017, , 527-535.	0.2	0
53	Methods of graph network reconstruction in personalized medicine. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2016, 32, e02754.	2.1	37
54	Could Revision of the Embryology Influence Our Cesarean Delivery Technique: Towards an Optimized Cesarean Delivery for Universal Use. <i>AJP Reports</i> , 2016, 06, e352-e354.	0.7	4

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55	Nonlinear finite volume method with discrete maximum principle for the two-phase flow model. Lobachevskii Journal of Mathematics, 2016, 37, 570-581.	0.9	9
56	Erratum to the paper "Methods of Blood Flow Modelling". Mathematical Modelling of Natural Phenomena, 2016, 11, 91-91.	2.4	3
57	Transcranial ultrasound of cerebral vessels in silico: proof of concept. Russian Journal of Numerical Analysis and Mathematical Modelling, 2016, 31, .	0.6	8
58	PERSONALIZED COMPUTATION OF FRACTIONAL FLOW RESERVE IN CASE OF TWO CONSECUTIVE STENOSES. , 2016, , .		2
59	Virtual blunt injury of human thorax: age-dependent response of vascular system. Russian Journal of Numerical Analysis and Mathematical Modelling, 2015, 30, .	0.6	19
60	A Splitting Method for Numerical Simulation of Free Surface Flows of Incompressible Fluids with Surface Tension. Computational Methods in Applied Mathematics, 2015, 15, 59-77.	0.8	7
61	ILU Preconditioners for Nonsymmetric Saddle-Point Matrices with Application to the Incompressible Navier–Stokes Equations. SIAM Journal of Scientific Computing, 2015, 37, A2171-A2197.	2.8	20
62	A semi-Lagrangian method on dynamically adapted octree meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2015, 30, .	0.6	10
63	Personalized Anatomical Meshing of the Human Body with Applications. Modeling, Simulation and Applications, 2015, , 221-236.	1.3	2
64	A Unified Approach for Computing Tsunami, Waves, Floods, and Landslides. Lecture Notes in Computational Science and Engineering, 2015, , 643-650.	0.3	0
65	Patient-specific anatomical models in human physiology. Russian Journal of Numerical Analysis and Mathematical Modelling, 2015, 30, .	0.6	15
66	An unconditionally stable semi-implicit FSI finite element method. Computer Methods in Applied Mechanics and Engineering, 2015, 297, 437-454.	6.6	8
67	On the elasticity of blood vessels in one-dimensional problems of hemodynamics. Computational Mathematics and Mathematical Physics, 2015, 55, 1567-1578.	0.8	39
68	Patient Specific Haemodynamic Modeling after Occlusion Treatment in Leg. Mathematical Modelling of Natural Phenomena, 2014, 9, 85-97.	2.4	14
69	A monotone nonlinear finite volume method for diffusion equations and multiphase flows. Computational Geosciences, 2014, 18, 311-324.	2.4	64
70	A Finite Volume Scheme with the Discrete Maximum Principle for Diffusion Equations on Polyhedral Meshes. Springer Proceedings in Mathematics and Statistics, 2014, , 197-205.	0.2	7
71	Nonlinear Monotone FV Schemes for Radionuclide Geomigration and Multiphase Flow Models. Springer Proceedings in Mathematics and Statistics, 2014, , 655-663.	0.2	2
72	An octree-based solver for the incompressible Navier–Stokes equations with enhanced stability and low dissipation. Computers and Fluids, 2013, 84, 231-246.	2.5	35

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73	Anderson Acceleration for Nonlinear Finite Volume Scheme for Advection-Diffusion Problems. SIAM Journal of Scientific Computing, 2013, 35, A1120-A1136.	2.8	38
74	Sensitivity field distributions for segmental bioelectrical impedance analysis based on real human anatomy. Journal of Physics: Conference Series, 2013, 434, 012001.	0.4	7
75	Two-phase water flooding simulations on dynamic adaptive octree grids with two-point nonlinear fluxes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2013, 28, .	0.6	13
76	Numerical issues of modelling blood flow in networks of vessels with pathologies. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 26, .	0.6	1
77	Minimal stencil finite volume scheme with the discrete maximum principle. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 27, .	0.6	64
78	CFD technology for 3D simulation of large-scale hydrodynamic events and disasters. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 27, .	0.6	7
79	Modelling of bioimpedance measurements: unstructured mesh application to real human anatomy. Russian Journal of Numerical Analysis and Mathematical Modelling, 2012, 27, .	0.6	14
80	Mesh generation and computational modeling techniques for bioimpedance measurements: an example using the VHP data. Journal of Physics: Conference Series, 2012, 407, 012004.	0.4	5
81	<pre> xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:tbl="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:sc="http://www.elsevier.com/xml/common/struct-citation/dtd" </pre>	2.7	0
82	Monotonicity recovering and accuracy preserving optimization methods for postprocessing finite element solutions. Journal of Computational Physics, 2012, 231, 3126-3142.	3.8	21
83	Vessel Wall Models for Simulation of Atherosclerotic Vascular Networks. Mathematical Modelling of Natural Phenomena, 2011, 6, 82-99.	2.4	7
84	Blood Flow Simulation in Atherosclerotic Vascular Network Using Fiber-Spring Representation of Diseased Wall. Mathematical Modelling of Natural Phenomena, 2011, 6, 333-349.	2.4	9
85	Application of Nonlinear Monotone Finite Volume Schemes to Advection-Diffusion Problems. Springer Proceedings in Mathematics, 2011, , 761-769.	0.5	0
86	Simulation of the interferon-mediated protective field in lymphoid organs with their spatial and functional organization taken into consideration. Doklady Biological Sciences, 2011, 439, 194-6.	0.6	2
87	On optimal convergence rate of finite element solutions of boundary value problems on adaptive anisotropic meshes. Mathematics and Computers in Simulation, 2011, 81, 1949-1961.	4.4	3
88	Reaction-Diffusion Modelling of Interferon Distribution in Secondary Lymphoid Organs. Mathematical Modelling of Natural Phenomena, 2011, 6, 13-26.	2.4	21
89	Families of meshes minimizing P 1 interpolation error for functions with indefinite Hessian. Russian Journal of Numerical Analysis and Mathematical Modelling, 2011, 26, .	0.6	0
90	A Numerical method for the Simulation of Free Surface Flows of Viscoplastic Fluid in 3D. Journal of Computational Mathematics, 2011, 29, 605-622.	0.4	21

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91	Hessian-free metric-based mesh adaptation via geometry of interpolation error. Computational Mathematics and Mathematical Physics, 2010, 50, 124-138.	0.8	16
92	On discrete boundaries and solution accuracy in anisotropic adaptive meshing. Engineering With Computers, 2010, 26, 281-288.	6.1	0
93	A monotone finite volume method for advection-diffusion equations on unstructured polygonal meshes. Journal of Computational Physics, 2010, 229, 4017-4032.	3.8	80
94	A multi-model approach to intravenous filter optimization. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 915-925.	2.1	6
95	Parallel solution of Mixed Finite Element/Spectral Element systems for convection-diffusion equations on non-matching grids. Applied Numerical Mathematics, 2010, 60, 1131-1147.	2.1	0
96	Minimization of gradient errors of piecewise linear interpolation on simplicial meshes. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 2195-2203.	6.6	16
97	A monotone nonlinear finite volume method for advection-diffusion equations on unstructured polyhedral meshes in 3D. Russian Journal of Numerical Analysis and Mathematical Modelling, 2010, 25, .	0.6	26
98	Edge-based a Posteriori Error Estimators for Generating Quasi-optimal Simplicial Meshes. Mathematical Modelling of Natural Phenomena, 2010, 5, 91-96.	2.4	4
99	Adaptive Solution of PDEs on Anisotropic Triangular Meshes. , 2010, , .		0
100	Acceleration of iterative solution of series of systems due to better initial guess. Lecture Notes in Computational Science and Engineering, 2010, , 29-40.	0.3	0
101	Error estimates for a finite element solution of the diffusion equation based on composite norms. Journal of Numerical Mathematics, 2009, 17, .	3.5	1
102	Interpolation-free monotone finite volume method for diffusion equations on polygonal meshes. Journal of Computational Physics, 2009, 228, 703-716.	3.8	132
103	A monotone nonlinear finite volume method for diffusion equations on conformal polyhedral meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2009, 24, .	0.6	61
104	Anisotropic Mesh Adaptation for Solution of Finite Element Problems Using Hierarchical Edge-Based Error Estimates. , 2009, , 595-610.		4
105	Two splitting schemes for nonstationary convection-diffusion problems on tetrahedral meshes. Computational Mathematics and Mathematical Physics, 2008, 48, 1349-1366.	0.8	16
106	Free surface flow modelling on dynamically refined hexahedral meshes. Russian Journal of Numerical Analysis and Mathematical Modelling, 2008, 23, .	0.6	5
107	Generation of Quasi-Optimal Meshes Based on a Posteriori Error Estimates. , 2008, , 139-148.		7
108	Pressure Schur Complement Preconditioners for the Discrete Oseen Problem. SIAM Journal of Scientific Computing, 2007, 29, 2686-2704.	2.8	51

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109	Monotone finite volume schemes for diffusion equations on unstructured triangular and shape-regular polygonal meshes. <i>Journal of Computational Physics</i> , 2007, 227, 492-512.	3.8	217
110	Computational issues related to iterative coupling of subsurface and channel flows. <i>Calcolo</i> , 2007, 44, 1-20.	1.1	41
111	POD acceleration of fully implicit solver for unsteady nonlinear flows and its application on grid architecture. <i>Advances in Engineering Software</i> , 2007, 38, 301-311.	3.8	4
112	Choice of initial guess in iterative solution of series of systems arising in fluid flow simulations. <i>Journal of Computational Physics</i> , 2006, 219, 210-227.	3.8	19
113	Parallel iterative multilevel solution of mixed finite element systems for scalar equations. <i>Concurrency Computation Practice and Experience</i> , 2006, 18, 501-518.	2.2	0
114	Analysis of Hessian Recovery Methods for Generating Adaptive Meshes. , 2006, , 163-171.		8
115	On discrete boundaries and solution accuracy in anisotropic adaptive meshing. , 2005, , 312-324.		0
116	Hessian-based anisotropic mesh adaptation in domains with discrete boundaries. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2005, 20, 391-402.	0.6	0
117	Parallel adaptive solution of the Stokes and Oseen problems on unstructured 3D meshes. , 2004, , 153-161.		1
118	On control of adaptation in parallel mesh generation. <i>Engineering With Computers</i> , 2004, 20, 193-201.	6.1	1
119	A hybrid domain decomposition method based on aggregation. <i>Numerical Linear Algebra With Applications</i> , 2004, 11, 327-341.	1.6	4
120	Parallel adaptive solution of 3D boundary value problems by Hessian recovery. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2003, 192, 1495-1513.	6.6	14
121	Iterative Solution Methods for Modeling Multiphase Flow in Porous Media Fully Implicitly. <i>SIAM Journal of Scientific Computing</i> , 2003, 25, 905-926.	2.8	89
122	Blood Flow Simulation in a Grid Environment. , 2003, , 195-202.		0
123	A parallel solver for unsteady incompressible 3D Navier-Stokes equations. <i>Parallel Computing</i> , 2001, 27, 363-389.	2.1	24
124	Decoupling preconditioners in the implicit parallel accurate reservoir simulator (IPARS). <i>Numerical Linear Algebra With Applications</i> , 2001, 8, 537-549.	1.6	68
125	A Parallel Schwarz Method for a Convection-Diffusion Problem. <i>SIAM Journal of Scientific Computing</i> , 2000, 22, 891-916.	2.8	22
126	Structuring preconditioners for unstructured meshes. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 1996, 11, .	0.6	1

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127	Aitken-Schwarz methods with non matching finite elements and spectral elements grids for the parallel simulation of an underground waste disposal site modeled by upscaling. , 1996, , 69-76.		1
128	Domain decomposition methods and averaging operators for the case of multidomain splitting. Russian Journal of Numerical Analysis and Mathematical Modelling, 1995, 10, .	0.6	0