## Shu Takagi

List of Publications by Year in descending order

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**SHILTAKACI** 

#	Article	IF	CITATIONS
1	Surfactant Effects on Bubble Motion and Bubbly Flows. Annual Review of Fluid Mechanics, 2011, 43, 615-636.	10.8	210
2	A full Eulerian finite difference approach for solving fluid–structure coupling problems. Journal of Computational Physics, 2011, 230, 596-627.	1.9	139
3	An interface capturing method with a continuous function: The THINC method with multi-dimensional reconstruction. Journal of Computational Physics, 2012, 231, 2328-2358.	1.9	124
4	Drag, deformation and lateral migration of a buoyant drop moving near a wall. Journal of Fluid Mechanics, 2003, 476, 115-157.	1.4	102
5	Drag and lift forces on a bubble rising near a vertical wall in a viscous liquid. Journal of Fluid Mechanics, 2002, 461, 277-300.	1.4	90
6	The effects of surfactant on the multiscale structure of bubbly flows. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 2117-2129.	1.6	65
7	Surfactant effect on path instability of a rising bubble. Journal of Fluid Mechanics, 2014, 738, 124-142.	1.4	55
8	Full Eulerian simulations of biconcave neo-Hookean particles in a Poiseuille flow. Computational Mechanics, 2010, 46, 147-157.	2.2	52
9	Numerical study on the shear-induced lift force acting on a spherical bubble in aqueous surfactant solutions. Physics of Fluids, 2008, 20, .	1.6	45
10	A numerical study of mass transfer of ozone dissolution in bubble plumes with an Euler–Lagrange method. Chemical Engineering Science, 2007, 62, 1081-1093.	1.9	38
11	Focus Control Aided by Numerical Simulation in Heterogeneous Media for High-Intensity Focused Ultrasound Treatment. Japanese Journal of Applied Physics, 2013, 52, 07HF01.	0.8	34
12	Multi-scale analysis of bubbly flows. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 689-704.	3.4	32
13	Surfactant effect on the bubble motions and bubbly flow structures in a vertical channel. Fluid Dynamics Research, 2009, 41, 065003.	0.6	32
14	Surface instability of an encapsulated bubble induced by an ultrasonic pressure wave. Journal of Fluid Mechanics, 2012, 691, 315-340.	1.4	29
15	Behavior of a Rising Bubble in Water with Surfactant Dissolution (1st Report, Steady Behavior). 880-02 Nihon Kikai Gakkai Ronbunshū Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2003, 69, 2192-2199.	0.2	27
16	Propagation of Pressure Waves, Caused by a Thermal Shock, in Liquid Metals Containing Gas Bubbles. Journal of Fluid Science and Technology, 2008, 3, 116-128.	0.2	26
17	Development of high intensity focused ultrasound simulator for largeâ€scale computing. International Journal for Numerical Methods in Fluids, 2011, 65, 43-66.	0.9	26
18	A Review of Full Eulerian Methods for Fluid Structure Interaction Problems. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	26

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19	Platelets: Small in Size But Essential in the Regulation of Vascular Homeostasis – Translation From Basic Science to Clinical Medicine –. Circulation Journal, 2015, 79, 1871-1881.	0.7	26
20	Synthetic aperture ultrasound imaging with a ring transducer array: preliminary ex vivo results. Journal of Medical Ultrasonics (2001), 2016, 43, 461-471.	0.6	26
21	A Full Eulerian Fluid-Membrane Coupling Method with a Smoothed Volume-of-Fluid Approach. Communications in Computational Physics, 2012, 12, 544-576.	0.7	23
22	Development of a Numerical Method for Patient-Specific Cerebral Circulation Using 1D–0D Simulation of the Entire Cardiovascular System with SPECT Data. Annals of Biomedical Engineering, 2016, 44, 2351-2363.	1.3	22
23	The Deformation Behavior of Multiple Red Blood Cells in a Capillary Vessel. Journal of Biomechanical Engineering, 2009, 131, 074504.	0.6	21
24	Prediction of Molecular Interaction between Platelet Glycoprotein Ibα and von Willebrand Factor using Molecular Dynamics Simulations. Journal of Atherosclerosis and Thrombosis, 2016, 23, 455-464.	0.9	21
25	On the interaction of two encapsulated bubbles in an ultrasound field. Journal of Fluid Mechanics, 2016, 804, 58-89.	1.4	21
26	A Computational Blood Flow Analysis in a Capillary Vessel including Multiple Red Blood Cells and Platelets. Journal of Biomechanical Science and Engineering, 2012, 7, 72-83.	0.1	20
27	A meso-scale analysis of lipid bilayers with the dissipative particle dynamics method: Thermally fluctuating interfaces. International Journal for Numerical Methods in Fluids, 2007, 54, 831-840.	0.9	19
28	Experimental Study on the New Micro-Bubble Generator and Its Application to Water Purification System. , 2003, , 469.		18
29	Full-Eulerian Finite-Difference Simulation of Fluid Flow in Hyperelastic Wavy Channel. Journal of Fluid Science and Technology, 2010, 5, 475-490.	0.2	16
30	The effect of bubble-induced liquid flow on mass transfer in bubble plumes. International Journal of Multiphase Flow, 2009, 35, 155-162.	1.6	15
31	An immersed boundary method for mass transfer through porous biomembranes under large deformations. Journal of Computational Physics, 2020, 413, 109444.	1.9	15
32	The role of numerical simulation for the development of an advanced HIFU system. Computational Mechanics, 2014, 54, 1023-1033.	2.2	14
33	A Multi-modality Approach Towards Elucidation of the Mechanism for Human Achilles Tendon Bending During Passive Ankle Rotation. Scientific Reports, 2018, 8, 4319.	1.6	14
34	A Novel High Intensity Focused Ultrasound Robotic System for Breast Cancer Treatment. Lecture Notes in Computer Science, 2013, 16, 388-395.	1.0	14
35	Relation between oxygen gas diffusivity and porous characteristics under capillary condensation of water in cathode catalyst layers of polymer electrolyte membrane fuel cells. International Journal of Heat and Mass Transfer, 2020, 150, 119277.	2.5	13
36	Influence of intramuscular fiber orientation on the Achilles tendon curvature using three-dimensional finite element modeling of contracting skeletal muscle. Journal of Biomechanics, 2016, 49, 3592-3595.	0.9	12

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37	Characterization of Brain-Targeted Drug Delivery Enhanced by a Combination of Lipid-Based Microbubbles and Non-Focused Ultrasound. Journal of Pharmaceutical Sciences, 2020, 109, 2827-2835.	1.6	12
38	Force Acting on a Spherical Bubble Rising through a Quiescent Liquid Japanese Journal of Multiphase Flow, 1996, 10, 264-273.	0.1	11
39	Numerical simulation of the tissue ablation in highâ€intensity focused ultrasound therapy with array transducer. International Journal for Numerical Methods in Fluids, 2010, 64, 1395-1411.	0.9	11
40	Mutual influence of molecular diffusion in gas and surface phases. Physical Review E, 2018, 97, 013101.	0.8	11
41	Molecular Insights into the Mechanical Properties of Polymer–Fullerene Bulk Heterojunctions for Organic Photovoltaic Applications. Macromolecules, 2021, 54, 958-969.	2.2	11
42	The Effects of Brachial Arterial Stiffening on The Accuracy of Oscillometric Blood Pressure Measurement: A Computational Model Study. Journal of Biomechanical Science and Engineering, 2012, 7, 15-30.	0.1	10
43	Focus Control in HIFU Therapy Assisted by Time-Reversal Simulation with an Iterative Procedure for Hot Spot Elimination. Journal of Biomechanical Science and Engineering, 2012, 7, 43-56.	0.1	10
44	A Full Eulerian Method for Fluid-structure Interaction Problems. Procedia IUTAM, 2017, 20, 159-166.	1.2	10
45	Effect of capillary condensation on gas transport properties in porous media. Physical Review E, 2017, 96, 043112.	0.8	10
46	Numerical Study on Platelet Adhesion to Vessel Walls using the Kinetic Monte Carlo Method. Journal of Biomechanical Science and Engineering, 2012, 7, 275-283.	0.1	9
47	Prediction of binding characteristics between von Willebrand factor and platelet glycoprotein Ibα with various mutations by molecular dynamic simulation. Thrombosis Research, 2019, 184, 129-135.	0.8	9
48	Study on the performance of a 200Âm airlift pump for water and highly-viscous shear-thinning slurry. International Journal of Multiphase Flow, 2021, 142, 103726.	1.6	9
49	Numerical investigation of COD reduction in compact bioreactor with bubble plumes. Chemical Engineering Science, 2018, 185, 1-17.	1.9	8
50	Potential different impact of inhibition of thrombin function and thrombin generation rate for the growth of thrombi formed at site of endothelial injury under blood flow condition. Thrombosis Research, 2019, 179, 121-127.	0.8	8
51	Effects of breast structure on high-intensity focused ultrasound focal error. Journal of Therapeutic Ultrasound, 2018, 6, 4.	2.2	7
52	Three-Dimensional Numerical Analysis of Bubbly Flow around a Circular Cylinder JSME International Journal Series B, 2001, 44, 319-327.	0.3	6
53	THE INFLUENCES OF CARDIOVASCULAR PROPERTIES ON SUPRASYSTOLIC BRACHIAL CUFF WAVE STUDIED BY A SIMPLE ARTERIAL-TREE MODEL. Journal of Mechanics in Medicine and Biology, 2012, 12, 1250040.	0.3	6
54	Numerical study on the effective heating due to inertial cavitation in microbubble-enhanced HIFU therapy. AIP Conference Proceedings, 2015, , .	0.3	6

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55	Continuum and stochastic approach for cell adhesion process based on Eulerian fluid-capsule coupling with Lagrangian markers. Journal of Computational Physics, 2018, 374, 769-786.	1.9	6
56	Important Regulatory Roles of Erythrocytes in Platelet Adhesion to the von Willebrand Factor on the Wall under Blood Flow Conditions. Thrombosis and Haemostasis, 2022, 122, 974-983.	1.8	6
57	Gas–Surface Energy Exchange in Collisions of Helium Atoms with Aligned Single-Walled Carbon Nanotube Arrays. Journal of Physical Chemistry C, 2013, 117, 14254-14260.	1.5	5
58	Effect of tendon stiffness on the generated force at the Achilles tendon - 3D finite element simulation of a human triceps surae muscle during isometric contraction. Journal of Biomechanical Science and Engineering, 2014, 9, 13-00294-13-00294.	0.1	5
59	Development of patient-specific 1D-0D simulation based on MRI and SPECT data. Journal of Biorheology, 2018, 32, 2-8.	0.2	5
60	A penalized spline fitting method to optimize geometric parameters of arterial centerlines extracted from medical images. Computerized Medical Imaging and Graphics, 2020, 84, 101746.	3.5	5
61	Automatic Aortic Valve Cusps Segmentation from CT Images Based on the Cascading Multiple Deep Neural Networks. Journal of Imaging, 2022, 8, 11.	1.7	5
62	Numerical Study of Particle Margination in a Square Channel Flow with Red Blood Cells. Fluids, 2022, 7, 96.	0.8	5
63	Development of Microbubble Generator and its Utilization to Enhance the Mass Transfer in the Bubble Plumes and Columns. , 2012, , .		4
64	Measurements of microbubble generation process in microchannel using ultra high-speed micro-PTV system. Microfluidics and Nanofluidics, 2013, 14, 1011-1020.	1.0	4
65	Incident energy dependence of the scattering dynamics of water molecules on silicon and graphite surfaces: the effect on tangential momentum accommodation. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	4
66	Viscid–inviscid interactions of pairwise bubbles in a turbulent channel flow and their implications for bubble clustering. Journal of Fluid Mechanics, 2021, 919, .	1.4	4
67	Numerical study on sector-vortex phased irradiation method using annular array transducer in High-Intensity Focused Ultrasound treatment. Ultrasonics, 2021, 115, 106464.	2.1	4
68	Numerical study on stress in a solid wall caused by the collapse of a cavitation bubble cloud in hydraulic fluid. International Journal of Multiphase Flow, 2022, 150, 103965.	1.6	4
69	Gas Adsorption and Diffusion Behaviors in Interfacial Systems Composed of a Polymer of Intrinsic Microporosity and Amorphous Silica: A Molecular Simulation Study. Langmuir, 2022, 38, 7567-7579.	1.6	4
70	Renal Stone Comminution Utilizing Cloud Cavitation Erosion (1st Report, The Control of Cloud) Tj ETQq0 0 0 rgBT Engineers Series B B-hen, 2004, 70, 904-911.	[ /Overloc 0.2	k 10 Tf 50 1 3
71	Propagation of Pressure Waves, Caused by a Thermal Shock, in Liquid Metals Containing Gas Bubbles. 880-02 Nihon Kikai Gakkai Ronbunshū Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2006, 72, 885-892.	0.2	3

52 Surfactant effects on single bubble motion and bubbly flow structure. , 2010, , .

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73	Visualization of Temperature Distribution around Focal Area and Near Fields of High Intensity Focused Ultrasound Using a 3D Measurement System. Advanced Biomedical Engineering, 2018, 7, 1-7.	0.4	3
74	Numerical Study of the Effective Combination of Microbubbles and Ultrasound in HIFU Therapy. , 2011, , .		3
75	The Behavior of a Lipid Bilayer Vesicle in a Simple Shear Flow (1st Report, Validation of the) Tj ETQq1 1 0.784314 Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2008, 74, 530-535.	rgBT /Ove 0.2	erlock 10 Tf 2
76	A Single Bubble 3D Motion in Dilute Surfactant Solution : 1st Report, Relation between Surfactant Concentration and 3D Motion(Fluids Engineering). 880-02 Nihon Kikai Gakkai Ronbunshū Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2010, 76, 1785-1792.	0.2	2
77	Thermal Decomposition Process of Ultrathin Oxide Layers on Si(100). Hyomen Kagaku, 2008, 29, 537-542.	0.0	2
78	Anatomical Geometry and Thickness of Aponeuroses in Human Cadaver Triceps Surae Muscles. Advanced Biomedical Engineering, 2015, 4, 12-15.	0.4	2
79	Localized motion imaging for monitoring HIFU therapy: Comparison of modulating frequencies and utilization of square modulating wave. Ultrasonics, 2022, 120, 106658.	2.1	2
80	Multi-Scale Analysis for Rarefied Gas Flows. AIP Conference Proceedings, 2003, , .	0.3	1
81	Nonlinear Behavior of the Collapse of a Spherical Bubble Cloud. 880-02 Nihon Kikai Gakkai Ronbunshū Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2006, 72, 620-627.	0.2	1
82	Relationship between Thermal Effect and Bubble Behavior in HIFU. AIP Conference Proceedings, 2006, , .	0.3	1
83	Temperature Distribution In The Medium Containing Contrast Agent Microbubbles In HIFU Field. AIP Conference Proceedings, 2006, , .	0.3	1
84	A Molecular Dynamics Study on the Growth of Bubble Nuclei with a Noncondensable Gas (2nd Report,) Tj ETQqO Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2007, 73, 2153-2159.	0 0 rgBT 0.2	/Overlock 10 1
85	The Behavior of a Lipid Bilayer Vesicle in a Simple Shear Flow (2nd Report, An Experimental Analysis of) Tj ETQq1 I Japan Society of Mechanical Engineers Series B B-hen, 2008, 74, 856-861.	0.78431	l4 rgBT /Ove 1
86	A Molecular Dynamics Study on the Local Structure of Liquid-Vapor Interface of Water and L-J Fluid. Journal of Thermal Science and Technology, 2008, 3, 234-240.	0.6	1
87	Analysis of microbubble dynamics under ultrasound exposure. , 2010, , .		1
88	Temperature distribution in heating experiment using HIFU and microbubbles. , 2010, , .		1
89	A numerical analysis of the effect of bubble-induced liquid flow on mass transfer in bubble plumes. , 2010, , .		1
90	Numerical study on microbubble-enhanced heating for various parameters in EUS-FUS. , 2012, , .		1

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91	Ultrasound-mediated gene transfection: A comparison between cells irradiated in suspension and attachment status. AlP Conference Proceedings, 2012, , .	0.3	1
92	Multiphase Flows in Bio-Medical Field. Japanese Journal of Multiphase Flow, 2012, 26, 386-391.	0.1	1
93	Two-dimensional manipulation of microbubbles using primary Bjerknes force. , 2013, , .		1
94	Hyperthermal molecular beam source using a non-diaphragm-type small shock tube. Review of Scientific Instruments, 2016, 87, 105117.	0.6	1
95	Molecular Scale Flow Structure Near a Solid Surface. JSME International Journal Series B, 2001, 44, 552-560.	0.3	0
96	Vibrational Relaxation of Diatomic Molecules in Rarefied Gas Flows. AIP Conference Proceedings, 2003, , .	0.3	0
97	Inverse Phenomenon of Nucleation Rate in Binary Liquid-Gas Mixtures (Molecular Dynamics Study of) Tj ETQq1 1 Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2005, 71, 1893-1900.	0.784314 0.2	ł rgBT /Oved O
98	Numerical Study Of The Heat Transfer From An Oscillating Bubble. AIP Conference Proceedings, 2005, ,	0.3	0
99	A Molecular Dynamics Study on the Growth of Bubble Nuclei with a Noncondensable Gas (1st Report,) Tj ETQq1 the Japan Society of Mechanical Engineers Series B B-hen, 2007, 73, 2145-2152.	1 0.78431 0.2	l4 rgBT /Ove o
100	Effects of Surfactant on the Lift Force Acting on a Bubble in a Shear Flow. 880-02 Nihon Kikai Gakkai Ronbunshū Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2008, 74, 1679-1685.	0.2	0
101	Ultrasound Gene Transfer into Fibroblast Cells using Microbubbles. , 2009, , .		0
102	Development of HIFU treatment in which the heating location is controlled using microbubbles. , 2009, , .		0
103	Scattering Process of Transmitted Gas Molecules Through Vertically Aligned Single-Walled Carbon Nanotube Arrays( <special issue="">The 1st Symposium on Micro-Nano Engineering). Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 2010, 76, 1933-1935.</special>	0.2	0
104	Micro-bubble Enhanced Sonoporation. , 2010, , .		0
105	Numerical Simulation of High Intensity Focused Ultrasound Therapy with Volume Model of Human Body. , 2010, , .		0
106	Notice of Retraction Nanoparticle control of slurry flow in microchannel. , 2011, , .		0
107	Optimization of HIFU treatment on the basis of temperature distributions measured by a thin-film thermocouple array. , 2012, , .		0
108	Development of High-Energy Molecular Beam Source Using Small Shock Tube. 880-02 Nihon Kikai Gakkai Ronbunshū Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2013, 79, 140-150.	0.2	0

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109	Development of Multi-scale Musculo-Skeletal Simulator. , 2016, , .		0
110	Behavior of the oscillating microbubble clusters trapped in focused ultrasound field. , 2017, , .		0
111	Behavior of the oscillating microbubble clusters trapped in focused ultrasound field. , 2017, , .		0
112	Constructing a coarse-grained water model based on non-Markovian dissipative particle dynamics. Transactions of the JSME (in Japanese), 2018, 84, 18-00193-18-00193.	0.1	0
113	Effect of Deformation Constraint Conditions on Force-length Relationship in Skeletal Muscles. Transactions of the Institute of Systems Control and Information Engineers, 2021, 34, 122-127.	0.1	0
114	Reduced-Order Modeling for Thermal Damping Effect on Radial Motion of a Bubble. The Proceedings of the Fluids Engineering Conference, 2004, 2004, 292.	0.0	0
115	A105 Multi-Scale Simulation of Blood Flow Taking Account of Cardiovascular Circulatory System. The Proceedings of the JSME Conference on Frontiers in Bioengineering, 2010, 2010.21, 9-10.	0.0	0
116	B116 Development of Cerebral Circulation Model for Multi-Scale Blood Flow Simulation. The Proceedings of the JSME Conference on Frontiers in Bioengineering, 2011, 2011.22, 69-70.	0.0	0
117	J053012 Measurements of Time-of-Flight Distributions of Shock-heated Molecular Beams. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _J053012-1J053012-5.	0.0	0
118	J053013 Investigation of water-graphite interaction using molecular beam technique. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _J053013-1J053013-5.	0.0	0
119	J025026 A Study on Numerical Models of Neural Networks for Human Motion in Parkinson's Patients. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _J025026-1J025026-4.	0.0	0
120	Biomechanical Simulation for Predictive Medical Treatment. The Proceedings of the Fluids Engineering Conference, 2012, 2012, 3-4.	0.0	0
121	F221003 Development of Functional Microbubbles. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _F221003-1F221003-2.	0.0	0
122	J011014 Blood Flow Simulation using the Fluid-Structure Coupling Method suitable for Massively Parallel Computing. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _J011014-1-J011014-5.	0.0	0
123	J053016 New formulation of dissipative particle dynamics : Non-Markovian models. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _J053016-1J053016-5.	0.0	0
124	B212 Molecular dynamics simulation of wettability and pore diameter dependence of saturation pressure of water in nanocylinders. The Proceedings of the Thermal Engineering Conference, 2014, 2014, _B212-1B212-2	0.0	0
125	Large-scale analysis of liquid-water distribution in a porous material based on mean field theory: Application to a micro-porous layer in a polymer electrolyte fuel cell. The Proceedings of Mechanical Engineering Congress Japan, 2016, 2016, J2220101.	0.0	0
126	Numerical simulation of red blood cell flow for investigation of coronary peripheral resistance. The Proceedings of the Computational Mechanics Conference, 2017, 2017.30, 218.	0.0	0

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127	Ultrasound computed tomography with the ring transducer using contrast source inversion. The Proceedings of Mechanical Engineering Congress Japan, 2018, 2018, J2410105.	0.0	0
128	Multiscale Simulations for Fluid Structure Interaction Problems with Biomedical Applications. Lecture Notes in Mechanical Engineering, 2019, , 207-215.	0.3	0
129	Biomechanical Gain in Joint Excursion from the Curvature of the Achilles Tendon: Role of the Geometrical Arrangement of Inflection Point, Center of Rotation, and Calcaneus. Diagnostics, 2021, 11, 2097.	1.3	0