Timothy W Secomb

List of Publications by Year
in descending order

203 papers	10,292 citations	34016 52 h-index	38300 95 g-index
205 all docs	205 docs citations	205 times ranked	9282 citing authors

#	Article	IF	Citations
1	The endothelial surface layer. Pflugers Archiv European Journal of Physiology, 2000, 440, 653-666.	1.3	736
2	Skeletal muscle capillary density and fiber type are possible determinants of in vivo insulin resistance in man.. Journal of Clinical Investigation, 1987, 80, 415-424.	3.9	675
3	Resistance to blood flow in microvessels in vivo.. Circulation Research, 1994, 75, 904-915.	2.0	539
4	Transport of drugs from blood vessels to tumour tissue. Nature Reviews Cancer, 2017, 17, 738-750.	12.8	499
5	Design Principles of Vascular Beds. Circulation Research, 1995, 77, 1017-1023.	2.0	256
6	Blood Flow in the Microcirculation. Annual Review of Fluid Mechanics, 2017, 49, 443-461.	10.8	239
7	Analysis of the Effects of Oxygen Supply and Demand on Hypoxic Fraction in Tumors. Acta OncolÃ³gica, 1995, 34, 313-316.	0.8	238
8	The shunt problem: control of functional shunting in normal and tumour vasculature. Nature Reviews Cancer, 2010, 10, 587-593.	12.8	237
9	Causes and Effects of Heterogeneous Perfusion in Tumors. Neoplasia, 1999, 1, 197-207.	2.3	233
10	Flow of axisymmetric red blood cells in narrow capillaries. Journal of Fluid Mechanics, 1986, 163, 405-423.	1.4	196
11	Green's Function Methods for Analysis of Oxygen Delivery to Tissue by Microvascular Networks. Annals of Biomedical Engineering, 2004, 32, 1519-1529.	1.3	195
12	Remodeling of Blood Vessels. Hypertension, 2005, 46, 725-731.	1.3	192
13	Structural Adaptation and Heterogeneity of Normal and Tumor Microvascular Networks. PLoS Computational Biology, 2009, 5, e1000394.	1.5	156
14	Two-Dimensional Simulation of Red Blood Cell Deformation and Lateral Migration in Microvessels. Annals of Biomedical Engineering, 2007, 35, 755-765.	1.3	142
15	Theoretical model of blood flow autoregulation: roles of myogenic, shear-dependent, and metabolic responses. American Journal of Physiology - Heart and Circulatory Physiology, 2008, 295, H1572-H1579.	1.5	142
16	Use of Three-Dimensional Tissue Cultures to Model Extravascular Transport and Predict In Vivo Activity of Hypoxia-Targeted Anticancer Drugs. Journal of the National Cancer Institute, 2006, 98, 1118-1128.	3.0	139
17	Motion of red blood cells in a capillary with an endothelial surface layer: effect of flow velocity. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 281, H629-H636.	1.5	131
18	Morphologic and hemodynamic comparison of tumor and healing normal tissue microvasculature. International Journal of Radiation Oncology Biology Physics, 1989, 17, 91-99.	0.4	126

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19	Direct Demonstration of Instabilities in Oxygen Concentrations within the Extravascular Compartment of an Experimental Tumor. Cancer Research, 2006, 66, 2219-2223.	0.4	126
20	Angiogenesis: An Adaptive Dynamic Biological Patterning Problem. PLoS Computational Biology, 2013, 9, e1002983.	1.5	124
21	Theoretical model of metabolic blood flow regulation: roles of ATP release by red blood cells and conducted responses. American Journal of Physiology - Heart and Circulatory Physiology, 2008, 295, H1562-H1571.	1.5	122
22	A Mathematical Model for Comparison of Bolus Injection, Continuous Infusion, and Liposomal Delivery of Doxorubicin to Tumor Cells. Neoplasia, 2000, 2, 325-338.	2.3	114
23	Microvascular blood flow resistance: role of endothelial surface layer. American Journal of Physiology - Heart and Circulatory Physiology, 1997, 273, H2272-H2279.	1.5	113
24	Hemodynamics. , 2016, 6, 975-1003.		105
25	Flow-dependent rheological properties of blood in capillaries. Microvascular Research, 1987, 34, 46-58.	1.1	101
26	Blood viscosity in microvessels: Experiment and theory. Comptes Rendus Physique, 2013, 14, 470-478.	0.3	100
27	Two-Mechanism Peak Concentration Model for Cellular Pharmacodynamics of Doxorubicin. Neoplasia, 2005, 7, 705-713.	2.3	99
28	Simulated Two-dimensional Red Blood Cell Motion, Deformation, and Partitioning in Microvessel Bifurcations. Annals of Biomedical Engineering, 2008, 36, 1690-1698.	1.3	99
29	Flow in a channel with pulsating walls. Journal of Fluid Mechanics, 1978, 88, 273-288.	1.4	94
30	Theoretical Simulation of Oxygen Transport to Brain by Networks of Microvessels: Effects of Oxygen Supply and Demand on Tissue Hypoxia. Microcirculation, 2000, 7, 237-247.	1.0	91
31	A theoretical model for oxygen transport in skeletal muscle under conditions of high oxygen demand. Journal of Applied Physiology, 2001, 91, 2255-2265.	1.2	91
32	A Green's function method for analysis of oxygen delivery to tissue by microvascular networks. Mathematical Biosciences, 1989, 96, 61-78.	0.9	89
33	Tumor-dependent Kinetics of Partial Pressure of Oxygen Fluctuations during Air and Oxygen Breathing. Cancer Research, 2004, 64, 6010-6017.	0.4	89
34	Perivascular Oxygen Tensions in a Transplantable Mammary Tumor Growing in a Dorsal Flap Window Chamber. Radiation Research, 1992, 130, 171.	0.7	86
35	Making Microvascular Networks Work: Angiogenesis, Remodeling, and Pruning. Physiology, 2014, 29, 446-455.	1.6	83
36	Review of methods used to study oxygen transport at the microcirculatory level. International Journal of Cancer, 2000, 90, 237-255.	2.3	82

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37	Effect of cell arrangement and interstitial volume fraction on the diffusivity of monoclonal antibodies in tissue. Biophysical Journal, 1993, 64, 1638-1646.	0.2	77
38	Theoretical Models for Regulation of Blood Flow. Microcirculation, 2008, 15, 765-775.	1.0	75
39	A Theoretical Model for the Myogenic Response Based on the Lengthâ€“Tension Characteristics of Vascular Smooth Muscle. Microcirculation, 2005, 12, 327-338.	1.0	74
40	Modeling Structural Adaptation of Microcirculation. Microcirculation, 2008, 15, 753-764.	1.0	74
41	Blood Flow in Microvascular Networks. , 2008, , 3-36.		74
42	Blood Flow and Red Blood Cell Deformation in Nonuniform Capillaries: Effects of the Endothelial Surface Layer. Microcirculation, 2002, 9, 189-196.	1.0	72
43	Blood flow resistance during hemodilution: effect of plasma composition. Cardiovascular Research, 1998, 37, 225-235.	1.8	71
44	A Theoretical Model for Intraperitoneal Delivery of Cisplatin and the Effect of Hyperthermia on Drug Penetration Distance. Neoplasia, 2004, 6, 117-127.	2.3	70
45	A two-dimensional model for capillary flow of an asymmetric cell. Microvascular Research, 1982, 24, 194-203.	1.1	69
46	Origins of heterogeneity in tissue perfusion and metabolism. Cardiovascular Research, 2009, 81, 328-335.	1.8	68
47	Structural Autoregulation of Terminal Vascular Beds. Hypertension, 1999, 33, 153-161.	1.3	64
48	Red blood cell mechanics and capillary blood rheology. Cell Biophysics, 1991, 18, 231-251.	0.4	63
49	Theoretical models for coronary vascular biomechanics: Progress & challenges. Progress in Biophysics and Molecular Biology, 2011, 104, 49-76.	1.4	62
50	Structural Adaptation of Vascular Networks. Hypertension, 2001, 38, 1476-1479.	1.3	60
51	Modeling of Cerebral Oxygen Transport Based on In vivo Microscopic Imaging of Microvascular Network Structure, Blood Flow, and Oxygenation. Frontiers in Computational Neuroscience, 2016, 10, 82.	1.2	60
52	A Mathematical Model for Cisplatin Cellular Pharmacodynamics. Neoplasia, 2003, 5, 161-169.	2.3	58
53	Assessment of the effects of cellular tissue properties on ADC measurements by numerical simulation of water diffusion. Magnetic Resonance in Medicine, 2009, 62, 1414-1422.	1.9	57
54	Angioadaptation: Keeping the Vascular System in Shape. Physiology, 2002, 17, 197-201.	1.6	55

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55	Analysis of red blood cell motion through cylindrical micropores: effects of cell properties. Biophysical Journal, 1996, 71, 1095-1101.	0.2	51
56	Estimation of Blood Flow Rates in Large Microvascular Networks. Microcirculation, 2012, 19, 530-538.	1.0	50
57	Structural Adaptation of Normal and Tumour Vascular Networks. Basic and Clinical Pharmacology and Toxicology, 2012, 110, 63-69.	1.2	50
58	The microcirculation: physiology at the mesoscale. Journal of Physiology, 2011, 589, 1047-1052.	1.3	47
59	The relative influence of hematocrit and red blood cell velocity on oxygen transport from capillaries to tissue. Microcirculation, 2017, 24, e12337.	1.0	47
60	Capillary recruitment in a theoretical model for blood flow regulation in heterogeneous microvessel networks. Physiological Reports, 2013, 1, e00050.	0.7	46
61	The Role of Bystander Effects in the Antitumor Activity of the Hypoxia-Activated Prodrug PR-104. Frontiers in Oncology, 2013, 3, 263.	1.3	46
62	Structural adaptation of microvessel diameters in response to metabolic stimuli: where are the oxygen sensors?. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 297, H2206-H2219.	1.5	45
63	Inflammationâ€Induced Intussusceptive Angiogenesis in Murine Colitis. Anatomical Record, 2010, 293, 849-857.	0.8	45
64	The effects of hyperoxic and hypercarbic gases on tumour blood flow. British Journal of Cancer, 1999, 80, 117-126.	2.9	41
65	Oxygen delivery to skeletal muscle fibers: effects of microvascular unit structure and control mechanisms. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 285, H955-H963.	1.5	40
66	Simultaneous administration of glucose and hyperoxic gas achieves greater improvement in tumor oxygenation than hyperoxic gas alone. International Journal of Radiation Oncology Biology Physics, 2001, 51, 494-506.	0.4	38
67	Effect of Lysyl Oxidase Inhibition on Angiotensin II-Induced Arterial Hypertension, Remodeling, and Stiffness. PLoS ONE, 2015, 10, e0124013.	1.1	37
68	Theoretical simulation of oxygen transport to brain by networks of microvessels: effects of oxygen supply and demand on tissue hypoxia. Microcirculation, 2000, 7, 237-47.	1.0	37
69	Design of Optimized Hypoxia-Activated Prodrugs Using Pharmacokinetic/Pharmacodynamic Modeling. Frontiers in Oncology, 2013, 3, 314.	1.3	36
70	Effect of longitudinal oxygen gradients on effectiveness of manipulation of tumor oxygenation. Cancer Research, 2003, 63, 4705-12.	0.4	36
71	A model for red blood cell motion in bifurcating microvessels. International Journal of Multiphase Flow, 2000, 26, 1545-1564.	1.6	35
72	Synergistic effects of hyperoxic gas breathing and reduced oxygen consumption on tumor oxygenation: a theoretical model. International Journal of Radiation Oncology Biology Physics, 2004, 59, 572-578.	0.4	34

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73	Intussusceptive remodeling of vascular branch angles in chemically-induced murine colitis. Microvascular Research, 2013, 87, 75-82.	1.1	34
74	Effects of shear rate on rouleau formation in simple shear flow. Biorheology, 1988, 25, 113-122.	1.2	33
75	Simulated Red Blood Cell Motion in Microvessel Bifurcations: Effects of Cellâ€“Cell Interactions on Cell Partitioning. Cardiovascular Engineering and Technology, 2011, 2, 349-360.	0.7	33
76	Effect of extravascular pressure gradients on capillary fluid exchange. Mathematical Biosciences, 1986, 81, 145-164.	0.9	32
77	Microangiectasias: Structural regulators of lymphocyte transmigration. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 7231-7234.	3.3	31
78	Multiple Etiologies of Tumor Hypoxia Require Multifaceted Solutions: Fig. 1.. Clinical Cancer Research, 2007, 13, 375-377.	3.2	30
79	Microcirculatory Network Structures and Models. Annals of Biomedical Engineering, 2000, 28, 916-921.	1.3	29
80	Rationale for hypoxia assessment and amelioration for precision therapy and immunotherapy studies. Journal of Clinical Investigation, 2019, 129, 489-491.	3.9	29
81	A theoretical model for the effects of reduced hemoglobin-oxygen affinity on tumor oxygenation. International Journal of Radiation Oncology Biology Physics, 2002, 53, 172-179.	0.4	28
82	Structural remodeling of mouse gracilis artery after chronic alteration in blood supply. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H2047-H2054.	1.5	28
83	The Role of Theoretical Modeling in Microcirculation Research. Microcirculation, 2008, 15, 693-698.	1.0	27
84	Mechanics and computational simulation of blood flow in microvessels. Medical Engineering and Physics, 2011, 33, 800-804.	0.8	27
85	Motion of red blood cells near microvessel walls: effects of a porous wall layer. Journal of Fluid Mechanics, 2012, 705, 195-212.	1.4	27
86	Cell Cycle Checkpoint Models for Cellular Pharmacology of Paclitaxel and Platinum Drugs. AAPS Journal, 2008, 10, 15-34.	2.2	26
87	Theoretical comparison of wall-derived and erythrocyte-derived mechanisms for metabolic flow regulation in heterogeneous microvascular networks. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H1945-H1952.	1.5	26
88	Interleukin-2/Anti-Interleukin-2 Immune Complex Expands Regulatory T Cells and Reduces Angiotensin II-Induced Aortic Stiffening. International Journal of Hypertension, 2014, 2014, 1-12.	0.5	26
89	Simulation of oxygen transport and estimation of tissue perfusion in extensive microvascular networks: Application to cerebral cortex. Journal of Cerebral Blood Flow and Metabolism, 2021, 41, 656-669.	2.4	25
90	Epithelial Amino Acid Transport in Marine Mussels: Role in net Exchange of Taurine Between Gills and Sea water. Journal of Experimental Biology, 1986, 121, 251-270.	0.8	25

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91	Spontaneous oscillations in a model for active control of microvessel diameters. Mathematical Medicine and Biology, 2012, 29, 163-180.	0.8	24
92	Optical measurement of microvascular oxygenation and blood flow responses in awake mouse cortex during functional activation. Journal of Cerebral Blood Flow and Metabolism, 2022, 42, 510-525.	2.4	24
93	Information Transfer in Microvascular Networks. Microcirculation, 2002, 9, 377-387.	1.0	24
94	A finite difference method with periodic boundary conditions for simulations of diffusion-weighted magnetic resonance experiments in tissue. Physics in Medicine and Biology, 2012, 57, N35-N46.	1.6	22
95	Structure and hemodynamics of vascular networks in the chorioallantoic membrane of the chicken. American Journal of Physiology - Heart and Circulatory Physiology, 2016, 311, H913-H926.	1.5	22
96	Modelling the relationships between haemoglobin oxygen affinity and the oxygen cascade in humans. Journal of Physiology, 2019, 597, 4193-4202.	1.3	22
97	Information transfer in microvascular networks. Microcirculation, 2002, 9, 377-87.	1.0	22
98	Quantitative Mapping of Hemodynamics in the Lung, Brain, and Dorsal Window Chamberâ€Grown Tumors Using a Novel, Automated Algorithm. Microcirculation, 2013, 20, 724-735.	1.0	21
99	Theoretical analysis of the determinants of lung oxygen diffusing capacity. Journal of Theoretical Biology, 2014, 351, 1-8.	0.8	21
100	The Relation Between Capillary Transit Times and Hemoglobin Saturation Heterogeneity. Part 1: Theoretical Models. Frontiers in Physiology, 2018, 9, 420.	1.3	21
101	A Systems Pharmacology Model for Drug Delivery to Solid Tumors by Antibody-Drug Conjugates: Implications for Bystander Effects. AAPS Journal, 2020, 22, 12.	2.2	21
102	Structural Adaptation of Microvascular Networks and Development of Hypertension. Microcirculation, 2002, 9, 305-314.	1.0	21
103	The interaction of extravascular pressure fields and fluid exchange in capillary networks. Mathematical Biosciences, 1986, 82, 141-151.	0.9	20
104	Effects of Bradykinin on the Hemodynamics of Tumor and Granulating Normal Tissue Microvasculature. Radiation Research, 1992, 130, 345.	0.7	20
105	A Green's function method for simulation of time-dependent solute transport and reaction in realistic microvascular geometries. Mathematical Medicine and Biology, 2016, 33, 475-494.	0.8	20
106	Coalescent angiogenesisâ€"evidence for a novel concept of vascular network maturation. Angiogenesis, 2022, 25, 35-45.	3.7	20
107	Simulation of Left Ventricular Dynamics Using a Low-Order Mathematical Model. Cardiovascular Engineering and Technology, 2017, 8, 480-494.	0.7	19
108	The Relation Between Capillary Transit Times and Hemoglobin Saturation Heterogeneity. Part 2: Capillary Networks. Frontiers in Physiology, 2018, 9, 1296.	1.3	19

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109	Structural adaptation of microvascular networks and development of hypertension. Microcirculation, 2002, 9, 305-14.	1.0	19
110	EFFECT OF SHEAR STRESS ON EFFERENT LYMPH-DERIVED LYMPHOCYTES IN CONTACT WITH ACTIVATED ENDOTHELIAL MONOLAYERS. In Vitro Cellular and Developmental Biology - Animal, 2001, 37, 599.	0.7	18
111	Unstirred Water Layers and the Kinetics of Organic Cation Transport. Pharmaceutical Research, 2015, 32, 2937-2949.	1.7	18
112	Modeling the hematocrit distribution in microcirculatory networks: A quantitative evaluation of a phase separation model. Microcirculation, 2018, 25, e12445.	1.0	18
113	Kroghâ€Cylinder and Infiniteâ€Domain Models for Washout of an Inert Diffusible Solute from Tissue. Microcirculation, 2015, 22, 91-98.	1.0	17
114	A hybrid discreteâ€"continuum approach for modelling microcirculatory blood flow. Mathematical Medicine and Biology, 2020, 37, 40-57.	0.8	17
115	Effects of the Calcium Channel Blocker Flunarizine on the Hemodynamics and Oxygenation of Tumor Microvasculature. Radiation Research, 1992, 132, 61.	0.7	16
116	Effect of increasing vascular hydraulic conductivity on delivery of macromolecular drugs to tumor cells. International Journal of Radiation Oncology Biology Physics, 1995, 32, 1419-1423.	0.4	16
117	Modeling of angioadaptation: insights for vascular development. International Journal of Developmental Biology, 2011, 55, 399-405.	0.3	16
118	The Oxygen Cascade During Exercise in Health and Disease. Mayo Clinic Proceedings, 2021, 96, 1017-1032.	1.4	16
119	Structural adaptation increases predicted perfusion capacity after vessel obstruction in arteriolar arcade network of pig skeletal muscle. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H2778-H2784.	1.5	14
120	Structureâ€Based Algorithms for Microvessel Classification. Microcirculation, 2015, 22, 99-108.	1.0	14
121	Two-dimensional simulation of red blood cell motion near a wall under a lateral force. Physical Review E, 2014, 90, 053014.	0.8	13
122	The mass transfer coefficient for oxygen transport from blood to tissue in cerebral cortex. Journal of Cerebral Blood Flow and Metabolism, 2020, 40, 1634-1646.	2.4	13
123	Effects of impaired microvascular flow regulation on metabolismâ€perfusion matching and organ function. Microcirculation, 2021, 28, e12673.	1.0	13
124	Simulation of angiogenesis in three dimensions: Application to cerebral cortex. PLoS Computational Biology, 2021, 17, e1009164.	1.5	13
125	Accurate Three-Dimensional Thermal Dosimetry and Assessment of Physiologic Response Are Essential for Optimizing Thermoradiotherapy. Cancers, 2022, 14, 1701.	1.7	13
126	Theoretical and Experimental Analysis of Hematocrit Distribution in Microcirculatory Networks. , 1989, , 39-49.		12

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127	Theoretical predictions of maximal oxygen consumption in hypoxia: effects of transport limitations. Respiratory Physiology and Neurobiology, 2004, 143, 87-97.	0.7	12
128	Structural Remodeling of the Mouse Gracilis Artery: Coordinated Changes in Diameter and Medial Area Maintain Circumferential Stress. Microcirculation, 2012, 19, 610-618.	1.0	12
129	Functional sympatholysis and sympathetic escape in a theoretical model for blood flow regulation. Frontiers in Physiology, 2014, 5, 192.	1.3	12
130	Microvascular Plasticity: Angiogenesis in Health and Disease â€“ Preface. Microcirculation, 2016, 23, 93-94.	1.0	12
131	Microvascular hemodynamics in the chick chorioallantoic membrane. Microcirculation, 2016, 23, 512-522.	1.0	12
132	Focal topographic changes in inflammatory microcirculation associated with lymphocyte slowing and transmigration. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 281, H1742-H1750.	1.5	11
133	Effect of the Glial Envelope on Extracellular K+Diffusion in Olfactory Glomeruli. Journal of Neurophysiology, 2002, 87, 1712-1722.	0.9	11
134	Effects of fluctuating oxygenation on tirapazamine efficacy: Theoretical predictions. International Journal of Radiation Oncology Biology Physics, 2007, 67, 581-586.	0.4	11
135	Structural Control of Microvessel Diameters: Origins of Metabolic Signals. Frontiers in Physiology, 2017, 8, 813.	1.3	11
136	Modeling left ventricular dynamics with characteristic deformation modes. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1683-1696.	1.4	11
137	Transient diffusion of albumin in aortic walls: effects of binding to medial elastin layers. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 292, H2195-H2201.	1.5	10
138	Time-Dependent Regional Myocardial Strains in Patients with Heart Failure with a Preserved Ejection Fraction. BioMed Research International, 2016, 2016, 1-13.	0.9	10
139	Patients Taking Antithrombotic Medications Present Less Frequently with Ruptured Aneurysms. World Neurosurgery, 2020, 136, e132-e140.	0.7	10
140	Theoretical simulation of K+-based mechanisms for regulation of capillary perfusion in skeletal muscle. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 287, H833-H840.	1.5	9
141	A low-order model for left ventricle dynamics throughout the cardiac cycle. Mathematical Medicine and Biology, 2013, 30, 45-63.	0.8	9
142	The additive damage model: A mathematical model for cellular responses to drug combinations. Journal of Theoretical Biology, 2014, 357, 10-20.	0.8	9
143	Kinetic basis of metformin-MPP interactions with organic cation transporter OCT2. American Journal of Physiology - Renal Physiology, 2019, 317, F720-F734.	1.3	9
144	A Low-Order Parametric Description of Left Ventricular Kinematics. Cardiovascular Engineering and Technology, 2014, 5, 348-358.	0.7	8

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145	Modelâ€based inference from microvascular measurements: Combining experimental measurements and model predictions using a Bayesian probabilistic approach. Microcirculation, 2017, 24, e12343.	1.0	8
146	Effects of pulmonary flow heterogeneity on oxygen transport parameters in exercise. Respiratory Physiology and Neurobiology, 2019, 261, 75-79.	0.7	8
147	Tracking of fluorescence nanoparticles with nanometre resolution in a biological system: assessing local viscosity and microrheology. Biomechanics and Modeling in Mechanobiology, 2014, 13, 275-288.	1.4	7
148	Dynamic remodeling of arteriolar collaterals after acute occlusion in chick chorioallantoic membrane. Microcirculation, 2017, 24, e12351.	1.0	7
149	Gap junctions regulate vessel diameter in chick chorioallantoic membrane vasculature by both toneâ€dependent and structural mechanisms. Microcirculation, 2020, 27, e12590.	1.0	6
150	Functional implications of microvascular heterogeneity for oxygen uptake and utilization. Physiological Reports, 2022, 10, e15303.	0.7	6
151	Prediction of noninertial focusing of red blood cells in Poiseuille flow. Physical Review E, 2015, 92, 033008.	0.8	5
152	Distinct roles of redâ€bloodâ€cellâ€derived and wallâ€derived mechanisms in metabolic regulation of blood flow. Microcirculation, 2021, 28, e12690.	1.0	4
153	Theoretical Simulation of Oxygen Transport to Brain by Networks of Microvessels: Effects of Oxygen Supply and Demand on Tissue Hypoxia. Microcirculation, 2000, 7, 237-247.	1.0	4
154	Commentaries on Viewpoint: A paradigm shift for local blood flow regulation. Journal of Applied Physiology, 2014, 116, 706-707.	1.2	3
155	Functional aortic stiffness: role of CD4+ T lymphocytes. Frontiers in Physiology, 2015, 6, 235.	1.3	2
156	Additive Damage Models for Cellular Pharmacodynamics of Radiationâ€"Chemotherapy Combinations. Bulletin of Mathematical Biology, 2018, 80, 1236-1258.	0.9	2
157	Review of methods used to study oxygen transport at the microcirculatory level. International Journal of Cancer, 2000, 90, 237-255.	2.3	2
158	Blood Flow and Red Blood Cell Deformation in Nonuniform Capillaries: Effects of the Endothelial Surface Layer. Microcirculation, 2002, 9, 189-196.	1.0	2
159	Resistance to Blood Flow In Vivo: from Poiseuille to the â€˜In Vivo Viscosity Lawâ€™. Biorheology, 1997, 34, 369-373.	1.2	1
160	Analysis of flow resistance in the pulmonary arterial circulation: implications for hypoxic pulmonary vasoconstriction. Journal of Applied Physiology, 2021, 131, 1211-1218.	1.2	1
161	The Blood Vasculature as an Adaptive System: Role of Mechanical Sensing. , 2003, , 187-196.		1
162	Theoretical Analyses and Simulations of Anticancer Drug Delivery. , 0, , 25-44.		1

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163	Simulation of angiogenesis, remodeling and pruning in microvascular networks. FASEB Journal, 2007, 21, A1214.	0.2	1
164	Mathematical modeling used to understand vascular remodeling. FASEB Journal, 2010, 24, 294.1.	0.2	1
165	Theoretical simulation of angiogenesis and structural adaptation in microvascular networks. FASEB Journal, 2012, 26, 682.1.	0.2	1
166	Spreading mechanics and differentiation of astrocytes during retinal development. Journal of Theoretical Biology, 2022, 549, 111208.	0.8	1
167	Hemodynamics and Vascular Remodeling. Cardiac and Vascular Biology, 2021, , 1-20.	0.2	0
168	Role of oxygenâ€dependent ATP release by red blood cells in metabolic regulation of blood flow. FASEB Journal, 2006, 20, A278.	0.2	0
169	Measurement of hemoglobin saturation and hematocrit by a multispectral imaging approach. FASEB Journal, 2006, 20, LB17.	0.2	0
170	Hemodynamic impact and thickness of the endothelial surface layer in microvascular networks. FASEB Journal, 2006, 20, A281.	0.2	0
171	Simulation of red blood cell deformation and radial migration in microvessels. FASEB Journal, 2006, 20, A280.	0.2	0
172	Increased arterial wall volume following chronic reduction of blood flow. FASEB Journal, 2006, 20, A710.	0.2	0
173	Contributions of myogenic and shear responses to vascular regulation analyzed using a representativeâ€segment vascular network model. FASEB Journal, 2006, 20, A278.	0.2	0
174	Roles of oxygenâ€dependent ATP release by red blood cells and conducted responses in metabolic regulation of blood flow. FASEB Journal, 2007, 21, A479.	0.2	0
175	Simulation of angiogenesis, remodeling and pruning in microvascular networks: Control of branching angles. FASEB Journal, 2008, 22, 925.7.	0.2	0
176	Changed microvascular adaptation characteristics may explain heterogeneity and hypoxia of tumor perfusion. FASEB Journal, 2008, 22, 925.6.	0.2	0
177	Causes for spatial heterogeneity of perfusion and function. FASEB Journal, 2009, 23, 948.8.	0.2	0
178	Mathematical modeling of metabolismâ€perfusion matching in a microvascular network. FASEB Journal, 2009, 23, 948.9.	0.2	0
179	Dynamics of structural adaptation after vascular occlusion.. FASEB Journal, 2009, 23, 592.16.	0.2	0
180	Development of collateral flow pathways in microvascular networks. FASEB Journal, 2009, 23, 592.19.	0.2	0

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181	Increased gracilis artery medial volume and inner diameter following chronic reduction of blood flow. FASEB Journal, 2010, 24, 774.26.	0.2	0
182	Simulation of metabolismâ€perfusion matching in a heterogeneous microvascular network. FASEB Journal, 2010, 24, 973.6.	0.2	0
183	Abstract 103: The additive damage model for dose-response of cancer drug combinations. , 2010, , .		0
184	Abstract 102: Mathematical models for growth of metastatic tumors. , 2010, , .		0
185	Abstract 39: A mathematical model for the dependence on tumor size of the rate of metastasis formation. , 2011, , .		0
186	Abstract 3962: Mathematical models for cellular pharmacodynamics of fractionated radiation and radiochemotherapy. , 2012, , .		0
187	Erythrocyte shunting patterns are identical for endothelial dysfunction and for loss of connexin 43. FASEB Journal, 2012, 26, 860.11.	0.2	0
188	Simulation of metabolic blood flow regulation in heterogeneous microvascular networks: Effects of hematocrit variations. FASEB Journal, 2012, 26, 860.8.	0.2	0
189	Role of erythrocyteâ€•vs. wallâ€derived signals in flow regulation in heterogeneous microvascular networks. FASEB Journal, 2012, 26, 860.5.	0.2	0
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