Daniel A Beard

List of Publications by Year
in descending order

177 papers	5,710 citations	71102 41 h-index	95266 68 g-index
189 all docs	189 docs citations	189 times ranked	6088 citing authors

#	Article	IF	Citations
1	Systems analysis of the mechanisms governing the cardiovascular response to changes in posture and in peripheral demand during exercise. Journal of Molecular and Cellular Cardiology, 2022, 163, 33-55.	1.9	10
2	Kinetic and thermodynamic regulation of mitochondrial energy metabolism and ROS production. Biophysical Journal, 2022, 121, 121a.	0.5	0
3	Multiscale model of the physiological control of myocardial perfusion to delineate putative metabolic feedback mechanisms. Journal of Physiology, 2022, 600, 1913-1932.	2.9	3
4	Quantification of Myocardial Creatine and Triglyceride Content in the Human Heart: Precision and Accuracy of in vivo Proton Magnetic Resonance Spectroscopy. Journal of Magnetic Resonance Imaging, 2021, 54, 411-420.	3.4	9
5	Hypoxic pulmonary vasoconstriction as a regulator of alveolar-capillary oxygen flux: A computational model of ventilation-perfusion matching. PLoS Computational Biology, 2021, 17, e1008861.	3.2	5
6	Phenotyping heart failure using modelâ€based analysis and physiologyâ€informed machine learning. Journal of Physiology, 2021, 599, 4991-5013.	2.9	16
7	Quantitative analysis of mitochondrial ATP synthesis. Mathematical Biosciences, 2021, 340, 108646.	1.9	5
8	Heart Failure as a Limitation of Cardiac Power Output. Function, 2021, 3, zqab066.	2.3	2
9	Age-Associated Mitochondrial Dysfunction Accelerates Atherogenesis. Circulation Research, 2020, 126, 298-314.	4.5	118
10	Impaired Myocardial Energetics Causes Mechanical Dysfunction in Decompensated Failing Hearts. Function, 2020, 1, zqaa018.	2.3	12
11	Endoplasmic reticulumâ€“associated degradation regulates mitochondrial dynamics in brown adipocytes. Science, 2020, 368, 54-60.	12.6	107
12	Universal relation between thermodynamic driving force and one-way fluxes in a nonequilibrium chemical reaction with complex mechanism. Physical Review Research, 2020, 2, .	3.6	3
13	Potential role of intermittent functioning of baroreflexes in the etiology of hypertension in spontaneously hypertensive rats. JCI Insight, 2020, 5, .	5.0	7
14	Computational Modeling of Coupled Energetics and Mechanics in the Rat Ventricular Myocardium. Physiome, 2020, , .	0.3	4
15	Cardiac Metabolic Limitations Contribute to Diminished Performance of the Heart in Aging. Biophysical Journal, 2019, 117, 2295-2302.	0.5	7
16	Cardiovascular System Model-Based Phenotyping of Heart Failure with Preserved Ejection Fraction. Journal of Cardiac Failure, 2019, 25, S33.	1.7	0
17	The Heart by Numbers. Biophysical Journal, 2019, 117, E1-E3.	0.5	0
18	High salt diet impairs cerebral blood flow regulation via saltâ€induced angiotensin <scp>II</scp> suppression. Microcirculation, 2019, 26, e12518.	1.8	17

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19	Effects of altered pyruvate dehydrogenase activity on contracting skeletal muscle bioenergetics. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2019, 316, R76-R86.	1.8	11
20	Control of Cardiac Mitochondrial Fuel Selection by Calcium. FASEB Journal, 2019, 33, lb313.	0.5	0
21	Towards a Multiâ€Scale Model of Ventilationâ€Perfusion Matching. FASEB Journal, 2019, 33, lb455.	0.5	0
22	Modelling the impact of changes in the extracellular environment on the cytosolic free NAD+/NADH ratio during cell culture. PLoS ONE, 2018, 13, e0207803.	2.5	18
23	Assessing the Validity and Utility of the Guyton Model of Arterial Blood Pressure Control. Hypertension, 2018, 72, 1272-1273.	2.7	9
24	Computational model-based assessment of baroreflex function from response to Valsalva maneuver. Journal of Applied Physiology, 2018, 125, 1944-1967.	2.5	10
25	Impaired Myofilament Contraction Drives Right Ventricular Failure Secondary to Pressure Overload: Model Simulations, Experimental Validation, and Treatment Predictions. Frontiers in Physiology, 2018, 9, 731.	2.8	6
26	Multiscale Computational Analysis of Right Ventricular Mechanoenergetics. Journal of Biomechanical Engineering, 2018, 140, .	1.3	8
27	Do computers dream of electric glomeruli?. Kidney International, 2018, 94, 635.	5.2	0
28	Region-Based Convolutional Neural Nets for Localization of Glomeruli in Trichrome-Stained Whole Kidney Sections. Journal of the American Society of Nephrology: JASN, 2018, 29, 2081-2088.	6.1	91
29	Systems-level computational modeling demonstrates fuel selection switching in high capacity running and low capacity running rats. PLoS Computational Biology, 2018, 14, e1005982.	3.2	4
30	Estrogen maintains mitochondrial content and function in the right ventricle of rats with pulmonary hypertension. Physiological Reports, 2017, 5, e13157.	1.7	39
31	Tautological Nature of Guytonâ€™s Theory of Blood Pressure Control. American Journal of Hypertension, 2017, 30, e5-e5.	2.0	6
32	The feasibility of genome-scale biological network inference using Graphics Processing Units. Algorithms for Molecular Biology, 2017, 12, 8.	1.2	5
33	Human Cardiac 31P-MR Spectroscopy at 3 Tesla Cannot Detect Failing Myocardial Energy Homeostasis during Exercise. Frontiers in Physiology, 2017, 8, 939.	2.8	28
34	Crops In Silico: Generating Virtual Crops Using an Integrative and Multi-scale Modeling Platform. Frontiers in Plant Science, 2017, 8, 786.	3.6	102
35	Mitochondrial structure and function are not different between nonfailing donor and endâ€stage failing human hearts. FASEB Journal, 2016, 30, 2698-2707.	0.5	21
36	Feedback Regulation and Time Hierarchy of Oxidative Phosphorylation in Cardiac Mitochondria. Biophysical Journal, 2016, 110, 972-980.	0.5	26

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37	Open-loop (feed-forward) and feedback control of coronary blood flow during exercise, cardiac pacing, and pressure changes. American Journal of Physiology - Heart and Circulatory Physiology, 2016, 310, H1683-H1694.	3.2	14
38	Open-Loop Control of Oxidative Phosphorylation in Skeletal and Cardiac Muscle Mitochondria by Ca2+. Biophysical Journal, 2016, 110, 954-961.	0.5	16
39	Influence of metabolic dysfunction on cardiac mechanics in decompensated hypertrophy and heart failure. Journal of Molecular and Cellular Cardiology, 2016, 94, 162-175.	1.9	25
40	Heterogeneous mechanics of the mouse pulmonary arterial network. Biomechanics and Modeling in Mechanobiology, 2016, 15, 1245-1261.	2.8	11
41	Global Kinetic Analysis of Mammalian E3 Reveals pH-dependent NAD+/NADH Regulation, Physiological Kinetic Reversibility, and Catalytic Optimum. Journal of Biological Chemistry, 2016, 291, 2712-2730.	3.4	8
42	Catalytic Coupling of Oxidative Phosphorylation, ATP Demand, and Reactive Oxygen Species Generation. Biophysical Journal, 2016, 110, 962-971.	0.5	55
43	Improving the physiological realism of experimental models. Interface Focus, 2016, 6, 20150076.	3.0	4
44	Dynamics of cross-bridge cycling, ATP hydrolysis, force generation, and deformation in cardiac muscle. Journal of Molecular and Cellular Cardiology, 2016, 96, 11-25.	1.9	26
45	The Pathway for Oxygen: Tutorial Modelling on Oxygen Transport from Air to Mitochondrion. Advances in Experimental Medicine and Biology, 2016, 876, 103-110.	1.6	2
46	Fluorescence dilution technique for measurement of albumin reflection coefficient in isolated glomeruli. American Journal of Physiology - Renal Physiology, 2015, 309, F1049-F1059.	2.7	15
47	Letter to the Editor: Mitochondrial cytochrome <i>c</i> oxidase: mechanism of action and role in regulating oxidative phosphorylation. Journal of Applied Physiology, 2015, 119, 157-157.	2.5	7
48	Big Data Analytics in Healthcare. BioMed Research International, 2015, 2015, 1-16.	1.9	332
49	Characterization of the Kinetics of Cardiac Cytosolic Malate Dehydrogenase and Comparative Analysis of Cytosolic and Mitochondrial Isoforms. Biophysical Journal, 2015, 108, 420-430.	0.5	12
50	Determination of the Catalytic Mechanism for Mitochondrial Malate Dehydrogenase. Biophysical Journal, 2015, 108, 408-419.	0.5	19
51	The Inferred Cardiogenic Gene Regulatory Network in the Mammalian Heart. PLoS ONE, 2014, 9, e100842.	2.5	8
52	Arterial Stiffening Provides Sufficient Explanation for Primary Hypertension. PLoS Computational Biology, 2014, 10, e1003634.	3.2	42
53	A pH-Dependent Kinetic Model of Dihydrolipoamide Dehydrogenase from Multiple Organisms. Biophysical Journal, 2014, 107, 2993-3007.	0.5	9
54	Determining the origins of superoxide and hydrogen peroxide in the mammalian NADH:ubiquinone oxidoreductase. Free Radical Biology and Medicine, 2014, 77, 121-129.	2.9	33

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55	Markov chain Monte Carlo based analysis of post-translationally modified VDAC gating kinetics. Frontiers in Physiology, 2014, 5, 513.	2.8	7
56	Analysis of the Kinetics and Bistability of Ubiquinol:Cytochrome c Oxidoreductase. Biophysical Journal, 2013, 105, 343-355.	0.5	24
57	Bridging the genotypeâ€"phenotype gap: what does it take?. Journal of Physiology, 2013, 591, 2055-2066.	2.9	62
58	Identification of the kinetic mechanism of succinyl-CoA synthetase. Bioscience Reports, 2013, 33, 145-63.	2.4	15
59	Effect of P2X4 and P2X7 receptor antagonism on the pressure diuresis relationship in rats. Frontiers in Physiology, 2013, 4, 305.	2.8	33
60	Rebuttal from Daniel Beard and Eric Feigl. Journal of Physiology, 2013, 591, 5801-5801.	2.9	0
61	Tautology vs. Physiology in the Etiology of Hypertension. Physiology, 2013, 28, 270-271.	3.1	18
62	Analysis of cardiovascular dynamics in pulmonary hypertensive C57BL6/J mice. Frontiers in Physiology, 2013, 4, 355.	2.8	24
63	A computational analysis of the long-term regulation of arterial pressure. F1000Research, 2013, 2, 208.	1.6	34
64	Kidney blood flow modeled from structural morphology of renal vasculature in the rat. FASEB Journal, 2013, 27, 1217.13.	0.5	0
65	Characterization of Different Modes of Ca 2+ Uptake under Physiological Conditions in Heart Mitochondria. FASEB Journal, 2013, 27, 1209.20.	0.5	0
66	Measurement of cardiac function using dual catheterization in the Dahl SS rat on low salt. FASEB Journal, 2013, 27, 1184.6.	0.5	0
67	A Biophysical Model of the Mitochondrial ATP-Mg/Pi Carrier. Biophysical Journal, 2012, 103, 1616-1625.	0.5	11
68	Multiscale Modeling and Data Integration in the Virtual Physiological Rat Project. Annals of Biomedical Engineering, 2012, 40, 2365-2378.	2.5	47
69	Modeling to Link Regional Myocardial Work, Metabolism and Blood Flows. Annals of Biomedical Engineering, 2012, 40, 2379-2398.	2.5	13
70	Specification, construction, and exact reduction of state transition system models of biochemical processes. Journal of Chemical Physics, 2012, 137, 154108.	3.0	5
71	Mechanisms of pressure-diuresis and pressure-natriuresis in Dahl salt-resistant and Dahl salt-sensitive rats. BMC Physiology, 2012, 12, 6.	3.6	17
72	Physiologically Based Pharmacokinetic Tissue Compartment Model Selection in Drug Development and Risk Assessment. Journal of Pharmaceutical Sciences, 2012, 101, 424-435.	3.3	18

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73	Isoflurane Increases Mitochondrial Free Ca 2+ by Attenuating the Na + /Ca 2+ Exchanger Activity. FASEB Journal, 2012, 26, 888.4.	0.5	0
74	Analysis of renal hemodynamics and pressureâ€natriuresis in Dahl saltâ€sensitive rats. FASEB Journal, 2012, 26, 1098.3.	0.5	0
75	Elucidation of mechanisms of biochemical regulation of fumarase activity under physiological conditions. FASEB Journal, 2012, 26, 963.14.	0.5	0
76	Transient myogenic response provides insight to mechanotransductive pathways in vascular smooth muscle cells. FASEB Journal, 2012, 26, 853.1.	0.5	0
77	A parallel algorithm for reverse engineering of biological networks. Integrative Biology (United) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.3	13
78	Characterization of Mg2+ Inhibition of Mitochondrial Ca2+ Uptake by a Mechanistic Model of Mitochondrial Ca2+ Uniporter. Biophysical Journal, 2011, 101, 2071-2081.	0.5	29
79	Kinetic Analysis and Design of Experiments to Identify the Catalytic Mechanism of the Monocarboxylate Transporter Isoforms 4 and 1. Biophysical Journal, 2011, 100, 369-380.	0.5	21
80	Comments on Point:Counterpoint: Muscle lactate and H+ production do/do not have a 1:1 association in skeletal muscle. Journal of Applied Physiology, 2011, 110, 1493-1496.	2.5	6
81	Computational analyses of intravascular tracer washout reveal altered capillaryâ€level flow distributions in obese Zucker rats. Journal of Physiology, 2011, 589, 4527-4543.	2.9	15
82	Theoretical models for coronary vascular biomechanics: Progress & challenges. Progress in Biophysics and Molecular Biology, 2011, 104, 49-76.	2.9	62
83	Detailed kinetics and regulation of mammalian 2-oxoglutarate dehydrogenase. BMC Biochemistry, 2011, 12, 53.	4.4	35
84	Simulation of cellular biochemical system kinetics. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2011, 3, 136-146.	6.6	17
85	A database of thermodynamic properties of the reactions of glycolysis, the tricarboxylic acid cycle, and the pentose phosphate pathway. Database: the Journal of Biological Databases and Curation, 2011, 2011, bar005-bar005.	3.0	28
86	Stimulatory Effects of Calcium on Respiration and NAD(P)H Synthesis in Intact Rat Heart Mitochondria Utilizing Physiological Substrates Cannot Explain Respiratory Control in Vivo. Journal of Biological Chemistry, 2011, 286, 30816-30822.	3.4	22
87	Identification of the Catalytic Mechanism and Estimation of Kinetic Parameters for Fumarase. Journal of Biological Chemistry, 2011, 286, 21100-21109.	3.4	28
88	Understanding Guyton's venous return curves. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H629-H633.	3.2	73
89	Minimum Information About a Simulation Experiment (MIASE). PLoS Computational Biology, 2011, 7, e1001122.	3.2	133
90	Calcium has no stimulatory effect on respiration or NADH synthesis in intact rat heart mitochondria utilizing physiological substrates. FASEB Journal, 2011, 25, 1033.2.	0.5	1

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91	Characterization of Membrane Potential Dependency of Mitochondrial Ca2+ Uptake by an Improved Biophysical Model of Mitochondrial Ca2+ Uniporter. PLoS ONE, 2010, 5, e13278.	2.5	21
92	Analysis of the diffusion of Ras2 in<i>Saccharomyces cerevisiae</i>using fluorescence recovery after photobleaching. Physical Biology, 2010, 7, 026011.	1.8	20
93	A Biophysically Based Mathematical Model for the Kinetics of Mitochondrial Na+-Ca2+ Antiporter. Biophysical Journal, 2010, 98, 218-230.	0.5	39
94	Mitochondrial Free [Ca2+] Increases during ATP/ADP Antiport and ADP Phosphorylation: Exploration of Mechanisms. Biophysical Journal, 2010, 99, 997-1006.	0.5	30
95	Kinetics and Regulation of Mammalian NADH-Ubiquinone Oxidoreductase (Complex I). Biophysical Journal, 2010, 99, 1426-1436.	0.5	19
96	Thermodynamic Calculations for Biochemical Transport and Reaction Processes in Metabolic Networks. Biophysical Journal, 2010, 99, 3139-3144.	0.5	30
97	Identifying physiological origins of baroreflex dysfunction in salt-sensitive hypertension in the Dahl SS rat. Physiological Genomics, 2010, 42, 23-41.	2.3	44
98	Mathematical Characterization of the Inhibitory Effect of Mg 2+ on the Kinetics of Mitochondrial Ca 2+ Uniporter. FASEB Journal, 2010, 24, 1065.6.	0.5	0
99	Altered Spatioâ€Temporal Microvascular Blood Flow Distribution Patterns in Skeletal Muscle with Metabolic Syndrome. FASEB Journal, 2010, 24, 978.1.	0.5	0
100	A Stochastic Model of Flow Bifurcation Predicts Altered Spatial Flow Distributions in Obese Zucker Rats. FASEB Journal, 2010, 24, 978.2.	0.5	0
101	Classification and quantitative description of human embryonic stem cellâ€derived cardiomyocyte action potentials during postâ€differentiation maturation. FASEB Journal, 2010, 24, 1058.11.	0.5	0
102	Experimentally observed phenomena on cardiac energetics in heart failure emerge from simulations of cardiac metabolism. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 7143-7148.	7.1	66
103	Creatine and phosphate pools are maintained at energetically optimal levels in the heart during hypertrophic remodeling and heart failure. , 2009, 2009, 4487-90.		0
104	Strong Inference for Systems Biology. PLoS Computational Biology, 2009, 5, e1000459.	3.2	51
105	Chapter 2 Multiple Ion Binding Equilibria, Reaction Kinetics, and Thermodynamics in Dynamic Models of Biochemical Pathways. Methods in Enzymology, 2009, 454, 29-68.	1.0	20
106	Apparent Diffusivity and Taylor Dispersion of Water andÂSolutes in Capillary Beds. Bulletin of Mathematical Biology, 2009, 71, 1366-1377.	1.9	14
107	An improved algorithm and its parallel implementation for solving a general blood-tissue transport and metabolism model. Journal of Computational Physics, 2009, 228, 7850-7861.	3.8	3
108	A Biophysically Based Mathematical Model for the Kinetics of Mitochondrial Calcium Uniporter. Biophysical Journal, 2009, 96, 1318-1332.	0.5	44

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109	Diffusion and Exchange of Non-Integral Membrane Associated Fluorophores During Fluorescence Recovery After Photobleaching with the Confocal Laser Scanning Microscope: ROI Size Analysis of EGFP:Ras2 Plasma Membrane Diffusion in Saccharomyces cerevisiae. Biophysical Journal, 2009, 96, 32a-33a.	0.5	0
110	CellML metadata standards, associated tools and repositories. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1845-1867.	3.4	62
111	Emergent Critical Phenomena in the Evolution of Heart Failure. FASEB Journal, 2009, 23, 362.10.	0.5	0
112	A Thermodynamically Balanced Kinetic Model of the Mitochondrial Na + â€Ca 2+ Antiporter. FASEB Journal, 2009, 23, 994.1.	0.5	0
113	Computational Analysis of Cardiac Energetics during Ischemia and Reperfusion in Bufferâ€Perfused Rabbit Hearts. FASEB Journal, 2009, 23, 763.4.	0.5	0
114	Differential expression of cardiac mitochondrial proteins. Proteomics, 2008, 8, 446-462.	2.2	10
115	Detailed kinetics and regulation of mammalian NAD-linked isocitrate dehydrogenase. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2008, 1784, 1641-1651.	2.3	37
116	Modeling of Cellular Metabolism and Microcirculatory Transport. Microcirculation, 2008, 15, 777-793.	1.8	15
117	The Role of Theoretical Modeling in Microcirculation Research. Microcirculation, 2008, 15, 693-698.	1.8	27
118	Analysis of cardiac mitochondrial Na⁺â€"Ca²⁺ exchanger kinetics with a biophysical model of mitochondrial Ca²⁺ handing suggests a 3: 1 stoichiometry. Journal of Physiology, 2008, 586, 3267-3285.	2.9	89
119	Phosphate metabolite concentrations and ATP hydrolysis potential in normal and ischaemic hearts. Journal of Physiology, 2008, 586, 4193-4208.	2.9	102
120	The Effects of Reversibility and Noise on Stochastic Phosphorylation Cycles and Cascades. Biophysical Journal, 2008, 95, 2183-2192.	0.5	17
121	Conventions and calculations for biochemical systems. , 2008, , 24-40.		3
122	Detailed Enzyme Kinetics in Terms of Biochemical Species: Study of Citrate Synthase. PLoS ONE, 2008, 3, e1825.	2.5	18
123	Metabolic Dynamics in Skeletal Muscle during Acute Reduction in Blood Flow and Oxygen Supply to Mitochondria: In-Silico Studies Using a Multi-Scale, Top-Down Integrated Model. PLoS ONE, 2008, 3, e3168.	2.5	23
124	ADP and CCCP â€induced increases in mitochondrial free Ca 2+ : greater contribution of matrix Ca 2+ buffering by ATP/ADP. FASEB Journal, 2008, 22, 756.6.	0.5	0
125	Computational biology of cardiac myocytes: proposed standards for the physiome. Journal of Experimental Biology, 2007, 210, 1576-1583.	1.7	45
126	Computer Modeling of Mitochondrial Tricarboxylic Acid Cycle, Oxidative Phosphorylation, Metabolite Transport, and Electrophysiology*. Journal of Biological Chemistry, 2007, 282, 24525-24537.	3.4	174

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127	OPTICAL SPECTROSCOPY DEMONSTRATES ELEVATED INTRACELLULAR OXYGENATION IN AN ENDOTOXIC MODEL OF SEPSIS IN THE PERFUSED HEART. Shock, 2007, 27, 695-700.	2.1	6
128	Oxidative ATP synthesis in skeletal muscle is controlled by substrate feedback. American Journal of Physiology - Cell Physiology, 2007, 292, C115-C124.	4.6	76
129	Relationship between Thermodynamic Driving Force and One-Way Fluxes in Reversible Processes. PLoS ONE, 2007, 2, e144.	2.5	125
130	Quantitative Analysis of Mitochondrial Membrane Potential Measurements with JCâ€1. FASEB Journal, 2007, 21, A1351.	0.5	2
131	Thermodynamically based profiling of drug metabolism and drugâ€“drug metabolic interactions: A case study of acetaminophen and ethanol toxic interaction. Biophysical Chemistry, 2006, 120, 121-134.	2.8	12
132	Modeling of Oxygen Transport and Cellular Energetics Explains Observations on In Vivo Cardiac Energy Metabolism. PLoS Computational Biology, 2006, 2, e107.	3.2	75
133	Constraint-based modeling of metabolomic systems. , 2005, , .		1
134	Ab initio prediction of thermodynamically feasible reaction directions from biochemical network stoichiometry. Metabolic Engineering, 2005, 7, 251-259.	7.0	43
135	Thermodynamics of stoichiometric biochemical networks in living systems far from equilibrium. Biophysical Chemistry, 2005, 114, 213-220.	2.8	189
136	Computational modeling of physiological systems. Physiological Genomics, 2005, 23, 1-3.	2.3	50
137	Thermodynamic-based computational profiling of cellular regulatory control in hepatocyte metabolism. American Journal of Physiology - Endocrinology and Metabolism, 2005, 288, E633-E644.	3.5	60
138	A Biophysical Model of the Mitochondrial Respiratory System and Oxidative Phosphorylation. PLoS Computational Biology, 2005, 1, e36.	3.2	213
139	Thermodynamic constraints for biochemical networks. Journal of Theoretical Biology, 2004, 228, 327-333.	1.7	154
140	Stoichiometric network theory for nonequilibrium biochemical systems. FEBS Journal, 2003, 270, 415-421.	0.2	101
141	Constructing irregular surfaces to enclose macromolecular complexes for mesoscale modeling using the discrete surface charge optimization (DISCO) algorithm. Journal of Computational Chemistry, 2003, 24, 2063-2074.	3.3	54
142	Unbiased Rotational Moves for Rigid-Body Dynamics. Biophysical Journal, 2003, 85, 2973-2976.	0.5	36
143	Myocardial oxygenation in isolated hearts predicted by an anatomically realistic microvascular transport model. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 285, H1826-H1836.	3.2	50
144	Energy Balance for Analysis of Complex Metabolic Networks. Biophysical Journal, 2002, 83, 79-86.	0.5	346

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145	Extreme Pathways and Kirchhoff's Second Law. Biophysical Journal, 2002, 83, 2879-2882.	0.5	122
146	Computational Framework for Generating Transport Models from Databases of Microvascular Anatomy. Annals of Biomedical Engineering, 2001, 29, 837-843.	2.5	24
147	Response to â€œComment on â€˜Taylor dispersion of a solute in a microfluidic channelâ€™ [J. Appl. Phys. 90, 6553 (2001)]â€• Journal of Applied Physics, 2001, 90, 6555-6556.	2.5	10
148	Taylor dispersion of a solute in a microfluidic channel. Journal of Applied Physics, 2001, 89, 4667-4669.	2.5	79
149	The mechanical and metabolic basis of myocardial blood flow heterogeneity. Basic Research in Cardiology, 2001, 96, 582-594.	5.9	46
150	Modeling Advection and Diffusion of Oxygen in Complex Vascular Networks. Annals of Biomedical Engineering, 2001, 29, 298-310.	2.5	100
151	Computational Modeling Predicts the Structure and Dynamics of Chromatin Fiber. Structure, 2001, 9, 105-114.	3.3	96
152	Advection and Diffusion of Substances in Biological Tissues With Complex Vascular Networks. Annals of Biomedical Engineering, 2000, 28, 253-268.	2.5	61
153	Inertial stochastic dynamics. II. Influence of inertia on slow kinetic processes of supercoiled DNA. Journal of Chemical Physics, 2000, 112, 7323-7338.	3.0	27
154	Inertial stochastic dynamics. I. Long-time-step methods for Langevin dynamics. Journal of Chemical Physics, 2000, 112, 7313-7322.	3.0	36
155	The Fractal Nature of Myocardial Blood Flow Emerges from a Whole-Organ Model of Arterial Network. Journal of Vascular Research, 2000, 37, 282-296.	1.4	114
156	Power-Law Kinetics of Tracer Washout from Physiological Systems. Annals of Biomedical Engineering, 1998, 26, 775-779.	2.5	22
157	Fractal ¹⁵ O-Labeled Water Washout From the Heart. Circulation Research, 1995, 77, 1212-1221.	4.5	62
158	Stochastic biochemical systems and the chemical master equation. , 0, , 261-281.		0
159	Biomacromolecular structure and molecular association. , 0, , 240-260.		0
160	Concepts from physical chemistry. , 0, , 7-23.		0
161	Chemical kinetics and transport processes. , 0, , 41-66.		0
162	Enzyme-catalyzed reactions. , 0, , 69-104.		1

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163	Biochemical signaling modules. , 0, , 105-127.		0
164	Biochemical reaction networks. , 0, , 128-161.		2
165	Coupled biochemical systems and membrane transport. , 0, , 162-192.		0
166	Spatially distributed systems and reactionâ€“diffusion modeling. , 0, , 195-219.		0
167	Constraint-based analysis of biochemical systems. , 0, , 220-239.		0
168	Appendix: the statistical basis of thermodynamics. , 0, , 282-295.		0
169	Cardiovascular systems simulation. , 0, , 105-144.		0
170	Chemical reaction systems: thermodynamics and chemical equilibrium. , 0, , 145-177.		0
171	Introduction to simulation of biological systems. , 0, , 1-20.		0
172	Transport and reaction of solutes in biological systems. , 0, , 21-65.		0
173	Chemical reaction systems: kinetics. , 0, , 178-204.		0
174	Chemical reaction systems: large-scale systems simulation. , 0, , 205-229.		0
175	Cellular electrophysiology. , 0, , 230-261.		0
176	Appendices: mathematical and computational techniques. , 0, , 262-298.		0
177	Physiologically based pharmacokinetic modeling. , 0, , 66-104.		0