David J Gavaghan

List of Publications by Year
in descending order

198 papers	26,191 citations	53751 45 h-index	6465 157 g-index
223 all docs	223 docs citations	223 times ranked	23972 citing authors

#	Article	IF	Citations
1	Using the Barthel Index and modified Rankin Scale as Outcome Measures for Stroke Rehabilitation Trials; A Comparison of Minimum Sample Size Requirements. Journal of Stroke and Cerebrovascular Diseases, 2022, 31, 106229.	0.7	5
2	Theoretical assessment of the impact of noise on heuristic parameter inference methods for surface-confined non-catalytic voltammetry experiments. Journal of Electroanalytical Chemistry, 2022, 907, 115927.	1.9	0
3	A Quantitative Systems Pharmacology Perspective on the Importance of Parameter Identifiability. Bulletin of Mathematical Biology, 2022, 84, 39.	0.9	19
4	A Parameter Representing Missing Charge Should Be Considered when Calibrating Action Potential Models. Frontiers in Physiology, 2022, 13, 879035.	1.3	1
5	Learning transmission dynamics modelling of COVID-19 using comomodels. Mathematical Biosciences, 2022, 349, 108824.	0.9	4
6	A Monte Carlo method to estimate cell population heterogeneity from cell snapshot data. Journal of Theoretical Biology, 2021, 511, 110541.	0.8	8
7	Using Purely Sinusoidal Voltammetry for Rapid Inference of Surface-Confined Electrochemical Reaction Parameters. Analytical Chemistry, 2021, 93, 2062-2071.	3.2	10
8	Barely sufficient practices in scientific computing. Patterns, 2021, 2, 100206.	3.1	5
9	A Comparison of Bayesian Inference Strategies for Parameterisation of Large Amplitude AC Voltammetry Derived from Total Current and Fourier Transformed Versions. ChemElectroChem, 2021, 8, 2238-2258.	1.7	9
10	A Voltammetric Perspective of Multi-Electron and Proton Transfer in Protein Redox Chemistry: Insights From Computational Analysis of Escherichia coli HypD Fourier Transformed Alternating Current Voltammetry. Frontiers in Chemistry, 2021, 9, 672831.	1.8	5
11	A Spotter's guide to dispersion in non-catalytic surface-confined voltammetry experiments. Journal of Electroanalytical Chemistry, 2021, 894, 115204.	1.9	8
12	Recent advances and future perspectives for automated parameterisation, Bayesian inference and machine learning in voltammetry. Chemical Communications, 2021, 57, 1855-1870.	2.2	35
13	Accounting for variability in ion current recordings using a mathematical model of artefacts in voltage-clamp experiments. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190348.	1.6	38
14	Chaste: Cancer, Heart and Soft Tissue Environment. Journal of Open Source Software, 2020, 5, 1848.	2.0	58
15	Models and Their Limitations in the Voltammmetric Parameterization of the Six-Electron Surface-Confined Reduction of $[PMo_{12}O_{40}]^{3-}$ at Glassy Carbon and Boron-Doped Diamond Electrodes. ChemElectroChem, 2019, 6, 5499-5510.	1.7	12
16	Rapid Characterization of hERG Channel Kinetics I: Using an Automated High-Throughput System. Biophysical Journal, 2019, 117, 2438-2454.	0.2	39
17	Rapid Characterization of hERG Channel Kinetics II: Temperature Dependence. Biophysical Journal, 2019, 117, 2455-2470.	0.2	38
18	Four Ways to Fit an Ion Channel Model. Biophysical Journal, 2019, 117, 2420-2437.	0.2	53

#	Article	IF	Citations
19	Separating the Effects of Experimental Noise from Inherent System Variability in Voltammetry: The $[Fe(CN)_6]^{3-/4-}$ Process. Analytical Chemistry, 2019, 91, 1944-1953.	3.2	11
20	Representation of Multiple Cellular Phenotypes Within Tissue-Level Simulations of Cardiac Electrophysiology. Bulletin of Mathematical Biology, 2019, 81, 7-38.	0.9	4
21	Probabilistic Inference on Noisy Time Series (PINTS). Journal of Open Research Software, 2019, 7, 23.	2.7	41
22	Sinusoidal voltage protocols for rapid characterisation of ion channel kinetics. Journal of Physiology, 2018, 596, 1813-1828.	1.3	54
23	Use of Bayesian Inference for Parameter Recovery in DC and AC Voltammetry. ChemElectroChem, 2018, 5, 917-935.	1.7	26
24	The zoon r package for reproducible and shareable species distribution modelling. Methods in Ecology and Evolution, 2018, 9, 260-268.	2.2	29
25	Problems with the Current Approach to the Dissemination of Computational Science Research and Its Implications for Research Integrity. Bulletin of Mathematical Biology, 2018, 80, 3088-3094.	0.9	4
26	Integration of Heuristic and Automated Parametrization of Three Unresolved Two‐Electron Surface‐Confined Polyoxometalate Reduction Processes by AC Voltammetry. ChemElectroChem, 2018, 5, 3771-3785.	1.7	13
27	Reproducible model development in the cardiac electrophysiology Web Lab. Progress in Biophysics and Molecular Biology, 2018, 139, 3-14.	1.4	21
28	Inference-based assessment of parameter identifiability in nonlinear biological models. Journal of the Royal Society Interface, 2018, 15, 20180318.	1.5	18
29	Analysis of HypD Disulfide Redox Chemistry via Optimization of Fourier Transformed ac Voltammetric Data. Analytical Chemistry, 2017, 89, 1565-1573.	3.2	23
30	Comparing two sequential Monte Carlo samplers for exact and approximate Bayesian inference on biological models. Journal of the Royal Society Interface, 2017, 14, 20170340.	1.5	20
31	Early afterdepolarisation tendency as a simulated pro-arrhythmic risk indicator. Toxicology Research, 2017, 6, 912-921.	0.9	18
32	Retuning the Catalytic Bias and Overpotential of a [NiFe]-Hydrogenase via a Single Amino Acid Exchange at the Electron Entry/Exit Site. Journal of the American Chemical Society, 2017, 139, 10677-10686.	6.6	62
33	Tailoring Mathematical Models to Stem-Cell Derived Cardiomyocyte Lines Can Improve Predictions of Drug-Induced Changes to Their Electrophysiology. Frontiers in Physiology, 2017, 8, 986.	1.3	42
34	Comparing individual-based approaches to modelling the self-organization of multicellular tissues. PLoS Computational Biology, 2017, 13, e1005387.	1.5	185
35	The role of the Hes1 crosstalk hub in Notch-Wnt interactions of the intestinal crypt. PLoS Computational Biology, 2017, 13, e1005400.	1.5	44
36	Ten simple rules for surviving an interdisciplinary PhD. PLoS Computational Biology, 2017, 13, e1005512.	1.5	7

#	Article	IF	Citations
37	Simulating social-ecological systems: the Island Digital Ecosystem Avatars (IDEA) consortium. GigaScience, 2016, 5, 14.	3.3	15
38	Room Temperature vs Ice Cold - Temperature Effects on Cardiac Cell Action Potential. Biophysical Journal, 2016, 110, 587a.	0.2	1
39	Multiparameter Estimation in Voltammetry When an Electron Transfer Process Is Coupled to a Chemical Reaction. Analytical Chemistry, 2016, 88, 4724-4732.	3.2	16
40	Simulated micro-electrode array recordings from stem cell-derived cardiomyocytes. Journal of Pharmacological and Toxicological Methods, 2016, 81, 380.	0.3	2
41	Cell-specific mathematical models of cardiac electrophysiology. Journal of Pharmacological and Toxicological Methods, 2016, 81, 343.	0.3	0
42	Uncertainty and variability in models of the cardiac action potential: Can we build trustworthy models?. Journal of Molecular and Cellular Cardiology, 2016, 96, 49-62.	0.9	113
43	Hierarchical Bayesian inference for ion channel screening dose-response data. Wellcome Open Research, 2016, 1, 6.	0.9	22
44	Hodgkin–Huxley revisited: reparametrization and identifiability analysis of the classic action potential model with approximate Bayesian methods. Royal Society Open Science, 2015, 2, 150499.	1.1	22
45	Novel Voltage Protocols for Determining hERG Channel Kinetics. Biophysical Journal, 2015, 108, 121a.	0.2	1
46	Electrophysiology of Cardiac Tissue Slices before, during, and after Stretch. Biophysical Journal, 2015, 108, 111a-112a.	0.2	0
47	Mechano-logical model of *C. elegans* germ line suggests feedback on the cell cycle. Development (Cambridge), 2015, 142, 3902-11.	1.2	28
48	Theoretical Analysis of the Relative Significance of Thermodynamic and Kinetic Dispersion in the dc and ac Voltammetry of Surface-Confined Molecules. Langmuir, 2015, 31, 4996-5004.	1.6	27
49	Ten Simple Rules for a Successful Cross-Disciplinary Collaboration. PLoS Computational Biology, 2015, 11, e1004214.	1.5	46
50	Cardiac tissue slices: preparation, handling, and successful optical mapping. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H1112-H1125.	1.5	52
51	Uncertainty quantification of fast sodium current steady-state inactivation for multi-scale models of cardiac electrophysiology. Progress in Biophysics and Molecular Biology, 2015, 117, 4-18.	1.4	55
52	Review of automatic pulmonary lobe segmentation methods from CT. Computerized Medical Imaging and Graphics, 2015, 40, 13-29.	3.5	51
53	Mechano-logical model of *C. elegans* germ line suggests feedback on the cell cycle. Journal of Cell Science, 2015, 128, e1.2-e1.2.	1.2	0
54	Prediction of Thorough QT study results using action potential simulations based on ion channel screens. Journal of Pharmacological and Toxicological Methods, 2014, 70, 246-254.	0.3	80

#	Article	IF	Citations
55	The Free Energy Landscape of Dimerization of a Membrane Protein, NanC. PLoS Computational Biology, 2014, 10, e1003417.	1.5	24
56	Ten Simple Rules for Effective Computational Research. PLoS Computational Biology, 2014, 10, e1003506.	1.5	47
57	Multiscale cardiac modelling reveals the origins of notched T waves in long QT syndrome type 2. Nature Communications, 2014, 5, 5069.	5.8	45
58	Information visualisation for science and policy: engaging users and avoiding bias. Trends in Ecology and Evolution, 2014, 29, 148-157.	4.2	95
59	Living cardiac tissue slices: An organotypic pseudo two-dimensional model for cardiac biophysics research. Progress in Biophysics and Molecular Biology, 2014, 115, 314-327.	1.4	22
60	Inappropriate Use of the Quasi-Reversible Electrode Kinetic Model in Simulation-Experiment Comparisons of Voltammetric Processes That Approach the Reversible Limit. Analytical Chemistry, 2014, 86, 8408-8417.	3.2	34
61	Metabolic Alterations During the Growth of Tumour Spheroids. Cell Biochemistry and Biophysics, 2014, 68, 615-628.	0.9	15
62	Assessing Whether "Big Data" Solutions Provide Value For Diagnostics Manufacturers. Value in Health, 2014, 17, A3.	0.1	0
63	A Comparison of Fully Automated Methods of Data Analysis and Computer Assisted Heuristic Methods in an Electrode Kinetic Study of the Pathologically Variable $[Fe(CN)_6]^{3-/4-}$ Process by AC Voltammetry. Analytical Chemistry, 2013, 85, 11780-11787.	3.2	32
64	Evaluation of an in silico cardiac safety assay: Using ion channel screening data to predict QT interval changes in the rabbit ventricular wedge. Journal of Pharmacological and Toxicological Methods, 2013, 68, 88-96.	0.3	62
65	Implementing vertex dynamics models of cell populations in biology within a consistent computational framework. Progress in Biophysics and Molecular Biology, 2013, 113, 299-326.	1.4	135
66	Access to enhanced differences in Marcus–Hush and Butler–Volmer electron transfer theories by systematic analysis of higher order AC harmonics. Physical Chemistry Chemical Physics, 2013, 15, 2210-2221.	1.3	13
67	Variability in high-throughput ion-channel screening data and consequences for cardiac safety assessment. Journal of Pharmacological and Toxicological Methods, 2013, 68, 112-122.	0.3	79
68	Comparison of Functional Parameter Measured from Tissues Slices and Whole-Heart. Biophysical Journal, 2013, 104, 316a.	0.2	0
69	A local sensitivity analysis method for developing biological models with identifiable parameters: Application to cardiac ionic channel modelling. Future Generation Computer Systems, 2013, 29, 591-598.	4.9	14
70	Troubling Trends in Scientific Software Use. Science, 2013, 340, 814-815.	6.0	151
71	Validity of the Cauchy-Born rule applied to discrete cellular-scale models of biological tissues. Physical Review E, 2013, 87, 042724.	0.8	10
72	Optimizing Peer Review of Software Code—Response. Science, 2013, 341, 237-237.	6.0	4

#	Article	IF	Citations
73	Colorectal cancer through simulation and experiment. IET Systems Biology, 2013, 7, 57-73.	0.8	23
74	Hydrodynamic dispersion within porous biofilms. Physical Review E, 2013, 87, 012718.	0.8	29
75	Chaste: An Open Source C++ Library for Computational Physiology and Biology. PLoS Computational Biology, 2013, 9, e1002970.	1.5	375
76	A Two-Dimensional Model of the Colonic Crypt Accounting for the Role of the Basement Membrane and Pericryptal Fibroblast Sheath. PLoS Computational Biology, 2012, 8, e1002515.	1.5	39
77	A Bidomain Model of the Ventricular Specialized Conduction System of the Heart. SIAM Journal on Applied Mathematics, 2012, 72, 1618-1643.	0.8	31
78	Action Potential Duration Maps in Homogeneous Cardiac Ventricular Tissue Slices are Independent of Changes in Stimulation Site. Biophysical Journal, 2012, 102, 543a-544a.	0.2	0
79	Modelling tissue electrophysiology with multiple cell types: applications of the extended bidomain framework. Integrative Biology (United Kingdom), 2012, 4, 192.	0.6	22
80	Modules for Reusable and Collaborative Modelling of Biological Mathematical Systems. , 2012, , .		2
81	Pulmonary lobe segmentation from CT images using fissureness, airways, vessels and multilevel B-splines. , 2012, , .		20
82	Theoretical Analysis of the Two-Electron Transfer Reaction and Experimental Studies with Surface-Confined Cytochrome c Peroxidase Using Large-Amplitude Fourier Transformed AC Voltammetry. Langmuir, 2012, 28, 9864-9877.	1.6	22
83	On an infrastructure to support sharing and aggregating pre- and post-publication systems biology research data. Systems and Synthetic Biology, 2012, 6, 35-49.	1.0	3
84	Global Sensitivity Analysis of Arrhythmic Risk Biomarkers in Cardiac Single Cell Models. Biophysical Journal, 2012, 102, 596a.	0.2	0
85	Computational modelling of cardiac electrophysiology: explanation of the variability of results from different numerical solvers. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 890-903.	1.0	54
86	Modelling the role of the basement membrane beneath a growing epithelial monolayer. Journal of Theoretical Biology, 2012, 298, 82-91.	0.8	30
87	Contrast-Independent Curvilinear Structure Detection in Biomedical Images. IEEE Transactions on Image Processing, 2012, 21, 2572-2581.	6.0	44
88	The Role of Photon Scattering in Voltage-Calcium Fluorescent Recordings of Ventricular Fibrillation. Biophysical Journal, 2011, 101, 307-318.	0.2	9
89	Leveraging e-Science infrastructure for electrochemical research. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 3336-3352.	1.6	14
90	Rabbit-specific ventricular model of cardiac electrophysiological function including specialized conduction system. Progress in Biophysics and Molecular Biology, 2011, 107, 90-100.	1.4	62

#	Article	IF	Citations
91	Considerations for the use of cellular electrophysiology models within cardiac tissue simulations. Progress in Biophysics and Molecular Biology, 2011, 107, 74-80.	1.4	28
92	Progressive changes in T_1, T_2 and left-ventricular histo-architecture in the fixed and embedded rat heart. NMR in Biomedicine, 2011, 24, 836-843.	1.6	31
93	Theoretical and experimental investigation of surface-confined two-center metalloproteins by large-amplitude Fourier transformed ac voltammetry. Journal of Electroanalytical Chemistry, 2011, 656, 293-303.	1.9	16
94	Simulation of multiple ion channel block provides improved early prediction of compounds' clinical torsadogenic risk. Cardiovascular Research, 2011, 91, 53-61.	1.8	282
95	High-throughput cardiac science on the Grid. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 3907-3923.	1.6	9
96	Multistability property in cardiac ionic models of mammalian and human ventricular cells. Progress in Biophysics and Molecular Biology, 2010, 103, 131-141.	1.4	14
97	A numerical guide to the solution of the bidomain equations of cardiac electrophysiology. Progress in Biophysics and Molecular Biology, 2010, 102, 136-155.	1.4	71
98	The Systems Biology Approach to Drug Development: Application to Toxicity Assessment of Cardiac Drugs. Clinical Pharmacology and Therapeutics, 2010, 88, 130-134.	2.3	60
99	Hyperpolarized Gas MRI For COPD Assessment – Automated Regional Image Analysis And Computational Simulations. , 2010, , .		0
100	Development of an anatomically detailed MRI-derived rabbit ventricular model and assessment of its impact on simulations of electrophysiological function. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H699-H718.	1.5	192
101	A global sensitivity tool for cardiac cell modeling: Application to ionic current balance and hypertrophic signaling. , 2010, 2010, 1498-502.		2
102	Integrated approach for the study of anatomical variability in the cardiac Purkinje system: From high resolution MRI to electrophysiology simulation. , 2010, 2010, 6793-6.		11
103	A Note on the Effect of the Choice of Weak Form on GMRES Convergence for Incompressible Nonlinear Elasticity Problems. Journal of Applied Mechanics, Transactions ASME, 2010, 77, .	1.1	0
104	A hybrid approach to multi-scale modelling of cancer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 5013-5028.	1.6	103
105	Introducing Drug Action into Single-Cell Cardiac Models. Biophysical Journal, 2010, 98, 213a.	0.2	0
106	Interactions Between a Voltage Sensor and a Toxin via Multiscale Simulations. Biophysical Journal, 2010, 98, 1558-1565.	0.2	24
107	A Posteriori Error Analysis for the Use of Lookup Tables in Cardiac Electrophysiology Simulations. SIAM Journal of Scientific Computing, 2010, 32, 2167-2189.	1.3	1
108	A Local Sensitivity Analysis Method for Developing Biological Models with Identifiable Parameters: Application to L-type Calcium Channel Modelling. , 2010, , .		0

#	Article	IF	Citations
109	Electrochemical Parameter Optimization Using Scientific Workflows. , 2010, , .		4
110	On the Secure Sharing and Aggregation of Data to Support Systems Biology Research. Lecture Notes in Computer Science, 2010, , 58-73.	1.0	2
111	Designer based Fourier transformed voltammetry: A multi-frequency, variable amplitude, sinusoidal waveform. Journal of Electroanalytical Chemistry, 2009, 634, 11-21.	1.9	16
112	Chaste: A test-driven approach to software development for biological modelling. Computer Physics Communications, 2009, 180, 2452-2471.	3.0	207
113	An integrative computational model for intestinal tissue renewal. Cell Proliferation, 2009, 42, 617-636.	2.4	142
114	An investigation into the role of the optical detection set-up in the recording of cardiac optical mapping signals: A Monte Carlo simulation study. Physica D: Nonlinear Phenomena, 2009, 238, 1008-1018.	1.3	13
115	The virtual physiological human: tools and applications II. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2121-2123.	1.6	7
116	C haste : incorporating a novel multi-scale spatial and temporal algorithm into a large-scale open source library. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1907-1930.	1.6	36
117	Generation of histo-anatomically representative models of the individual heart: tools and application. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2257-2292.	1.6	135
118	The virtual physiological human: tools and applications I. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 1817-1821.	1.6	11
119	Relationship between structural changes and hyperpolarized gas magnetic resonance imaging in chronic obstructive pulmonary disease using computational simulations with realistic alveolar geometry. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 2347-2369.	1.6	11
120	Predicting Tumor Location by Modeling the Deformation of the Breast. IEEE Transactions on Biomedical Engineering, 2008, 55, 2471-2480.	2.5	77
121	The role of transmural ventricular heterogeneities in cardiac vulnerability to electric shocks. Progress in Biophysics and Molecular Biology, 2008, 96, 321-338.	1.4	12
122	The role of the Na+/Ca2+ exchangers in Ca2+ dynamics in ventricular myocytes. Progress in Biophysics and Molecular Biology, 2008, 96, 377-398.	1.4	37
123	Multi-scale computational modelling in biology and physiology. Progress in Biophysics and Molecular Biology, 2008, 96, 60-89.	1.4	149
124	The Interaction of Phospholipase A2 with a Phospholipid Bilayer: Coarse-Grained Molecular Dynamics Simulations. Biophysical Journal, 2008, 95, 1649-1657.	0.2	41
125	Lipid Bilayer Deformation and the Free Energy of Interaction of a Kv Channel Gating-Modifier Toxin. Biophysical Journal, 2008, 95, 3816-3826.	0.2	27
126	Chaste: using agile programming techniques to develop computational biology software. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 3111-3136.	1.6	61

#	Article	IF	Citations
127	High Performance Computer Simulations of Cardiac Electrical Function Based on High Resolution MRI Datasets. Lecture Notes in Computer Science, 2008, , 571-580.	1.0	8
128	Incorporating Local Ca2‰+‰Dynamics into Single Cell Ventricular Models. Lecture Notes in Computer Science, 2008, , 66-75.	1.0	1
129	AN ITERATIVE METHOD FOR REGISTRATION OF HIGH-RESOLUTION CARDIAC HISTOANATOMICAL AND MRI IMAGES. , 2007, , .		5
130	Unstructured Spectral Elements applied to the Bidomain Model. AIP Conference Proceedings, 2007, , .	0.3	0
131	Non-linear modelling of breast tissue. Mathematical Medicine and Biology, 2007, 24, 327-345.	0.8	19
132	Functional Significance of Na+/Ca2+ Exchangers Co-localization with Ryanodine Receptors. Annals of the New York Academy of Sciences, 2007, 1099, 215-220.	1.8	6
133	Conformational Dynamics of a Lipid-Interacting Protein:‰ MD Simulations of Saposin B. Biochemistry, 2007, 46, 13573-13580.	1.2	8
134	SGTx1, a Kv Channel Gating-Modifier Toxin, Binds to the Interfacial Region of Lipid Bilayers. Biophysical Journal, 2007, 92, L07-L09.	0.2	38
135	The Role of Photon Scattering in Optical Signal Distortion during Arrhythmia and Defibrillation. Biophysical Journal, 2007, 93, 3714-3726.	0.2	71
136	Metabolic changes during carcinogenesis: Potential impact on invasiveness. Journal of Theoretical Biology, 2007, 244, 703-713.	0.8	164
137	Photon scattering effects in optical mapping of propagation and arrhythmogenesis in the heart. Journal of Electrocardiology, 2007, 40, S75-S80.	0.4	34
138	Quiescence as a mechanism for cyclical hypoxia and acidosis. Journal of Mathematical Biology, 2007, 55, 767-779.	0.8	8
139	Soft Tissue Modelling of Cardiac Fibres for Use in Coupled Mechano-Electric Simulations. Bulletin of Mathematical Biology, 2007, 69, 2199-2225.	0.9	46
140	P4-24. Heart Rhythm, 2006, 3, S226.	0.3	0
141	P4-23. Heart Rhythm, 2006, 3, S226.	0.3	0
142	P4-21. Heart Rhythm, 2006, 3, S225.	0.3	1
143	Synthesis of Voltage-Sensitive Optical Signals: Application to Panoramic Optical Mapping. Biophysical Journal, 2006, 90, 2938-2945.	0.2	79
144	Inference of Intramural Wavefront Orientation from Optical Recordings in Realistic Whole-Heart Models. Biophysical Journal, 2006, 91, 3957-3958.	0.2	10

#	ARTICLE	IF	CITATIONS
145	Adaptive Finite Element Methods in Electrochemistry. Langmuir, 2006, 22, 10666-10682.	1.6	17
146	Mathematical models in physiology. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1099-1106.	1.6	41
147	Enabling computer models of the heart for high-performance computers and the grid. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1501-1516.	1.6	25
148	Post-genomic science: cross-disciplinary and large-scale collaborative research and its organizational and technological challenges for the scientific research process. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 1533-1549.	1.6	28
149	Vulnerability to electric shocks in the regionally-ischemic ventricles. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
150	Computation of currents at microelectrodes using hp-DGFEM. Journal of Electroanalytical Chemistry, 2006, 587, 1-17.	1.9	11
151	Finite element solution of a membrane covered electrode problem. Journal of Electroanalytical Chemistry, 2006, 587, 18-24.	1.9	0
152	Three-Dimensional Models of Individual Cardiac Histoanatomy: Tools and Challenges. Annals of the New York Academy of Sciences, 2006, 1080, 301-319.	1.8	89
153	Development of a functional magnetic resonance imaging simulator for modeling realistic rigid-body motion artifacts. Magnetic Resonance in Medicine, 2006, 56, 364-380.	1.9	91
154	Vulnerability to electric shocks in the regionally-ischemic ventricles. , 2006, 2006, 2280-3.		3
155	Multimodal Imaging Techniques for the Extraction of Detailed Geometrical and Physiological Information for Use in Multi-Scale Models of Colorectal Cancer and Treatment of Individual Patients. Computational and Mathematical Methods in Medicine, 2006, 7, 177-188.	0.7	8
156	The role of acidity in solid tumour growth and invasion. Journal of Theoretical Biology, 2005, 235, 476-484.	0.8	140
157	Direct optical mapping signal synthesis over a geometrically accurate ventricular model. Heart Rhythm, 2005, 2, S220.	0.3	0
158	Predicting Tumour Location by Simulating Large Deformations of the Breast Using a 3D Finite Element Model and Nonlinear Elasticity. Lecture Notes in Computer Science, 2004, , 217-224.	1.0	36
159	Time dependent ECâ€², ECE and EC2E mechanisms at microdisc electrodes: simulations using adaptive finite element methods. Journal of Electroanalytical Chemistry, 2004, 569, 35-46.	1.9	15
160	Simulation of linear sweep voltammetry using an adaptive finite element algorithm. Journal of Electroanalytical Chemistry, 2004, 573, 169-174.	1.9	8
161	Resistance, Capacitance, and Electrode Kinetic Effects in Fourier-Transformed Large-Amplitude Sinusoidal Voltammetry:â€‰ Emergence of Powerful and Intuitively Obvious Tools for Recognition of Patterns of Behavior. Analytical Chemistry, 2004, 76, 6214-6228.	3.2	73
162	Simulation of linear sweep voltammetry using an adaptive finite element algorithm. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 2004, 573, 169-174.	0.3	3

#	Article	IF	Citations
163	Mathematical modelling of pulmonary gas transport. Journal of Mathematical Biology, 2003, 47, 79-99.	0.8	20
164	Adaptive finite element simulation of chronoamperometry at microdisc electrodes. Electrochemistry Communications, 2003, 5, 519-529.	2.3	21
165	Variation of venous admixture, SF 6 shunt, P a O2 , and the P a O2 / F i O2 ratio with F i O2. British Journal of Anaesthesia, 2002, 88, 771-778.	1.5	46
166	A Full Analytic Treatment of Reversible Linear-Scan Voltammetry with Square-Wave Modulation. Journal of Physical Chemistry B, 2002, 106, 152-157.	1.2	17
167	Microring Electrodes:Â A Computational Study of Transport-Limited Processes. Journal of Physical Chemistry B, 2002, 106, 4886-4896.	1.2	15
168	Models for pattern formation in somitogenesis: a marriage of cellular and molecular biology. Comptes Rendus - Biologies, 2002, 325, 179-189.	0.1	24
169	The Dynamics and Pinning of a Spike for a Reaction-Diffusion System. SIAM Journal on Applied Mathematics, 2002, 62, 1297-1328.	0.8	47
170	Pooling data for Number Needed to Treat: no problems for apples. BMC Medical Research Methodology, 2002, 2, 2.	1.4	36
171	Mathematical modelling of oxygen transport to tissue. Journal of Mathematical Biology, 2002, 44, 503-522.	0.8	45
172	Finite element simulation of electrochemically reversible, quasi-reversible and irreversible linear sweep voltammetry at the wall tube electrode. Journal of Electroanalytical Chemistry, 2002, 531, 25-31.	1.9	10
173	Some factors affecting oxygen uptake by red blood cells in the pulmonary capillaries. Mathematical Biosciences, 2001, 169, 153-172.	0.9	19
174	The effect of periodic modulation on the aperiodic current in linear-scan and cyclic voltammetries. Journal of Electroanalytical Chemistry, 2001, 516, 2-9.	1.9	15
175	Using evidence from different sources: an example using paracetamol 1000 mg plus codeine 60 mg. BMC Medical Research Methodology, 2001, 1, 1.	1.4	40
176	Numerical Simulation of Alternating Current Linear Sweep Voltammetry at Microdisc Electrodes. Collection of Czechoslovak Chemical Communications, 2001, 66, 255-275.	1.0	10
177	A Cell Cycle Model for Somitogenesis: Mathematical Formulation and Numerical Simulation. Journal of Theoretical Biology, 2000, 207, 305-316.	0.8	52
178	Extended electron transfer and the Frumkin correction. Journal of Electroanalytical Chemistry, 2000, 491, 103-110.	1.9	55
179	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. An E reaction at a channel microband electrode. Electrochemistry Communications, 2000, 2, 567-575.	2.3	22
180	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. ECE and EC2E mechanisms at channel microband electrodes. Electrochemistry Communications, 2000, 2, 576-585.	2.3	20

#	Article	IF	Citations
181	Adaptative finite element simulation of currents at microelectrodes to a guaranteed accuracy. Application to a simple model problem. Electrochemistry Communications, 2000, 2, 150-156.	2.3	36
182	Adaptive finite element simulation of currents at microelectrodes to a guaranteed accuracy. Theory. Electrochemistry Communications, 2000, 2, 157-162.	2.3	34
183	Adaptative finite element simulation of currents at microelectrodes to a guaranteed accuracy. First-order ECâ€² mechanism at inlaid and recessed discs. Electrochemistry Communications, 2000, 2, 163-170.	2.3	35
184	An evaluation of homogeneity tests in meta-analyses in pain using simulations of individual patient data. Pain, 2000, 85, 415-424.	2.0	231
185	Publication and related bias in meta-analysis. Journal of Clinical Epidemiology, 2000, 53, 1119-1129.	2.4	1,768
186	Size is everything â€“ large amounts of information are needed to overcome random effects in estimating direction and magnitude of treatment effects. Pain, 1998, 78, 209-216.	2.0	573
187	Deriving dichotomous outcome measures from continuous data in randomised controlled trials of analgesics: verification from independent data. Pain, 1997, 69, 127-130.	2.0	171
188	Deriving dichotomous outcome measures from continuous data in randomised controlled trials of analgesics: use of pain intensity and visual analogue scales. Pain, 1997, 69, 311-315.	2.0	211
189	Analytical solution for the steady-state diffusion towards an inlaid disc microelectrode in a multi-layered medium. Journal of Electroanalytical Chemistry, 1997, 440, 1-25.	1.9	14
190	Deriving dichotomous outcome measures from continuous data in randomised controlled trials of analgesics. Pain, 1996, 66, 229-237.	2.0	220
191	Behaviour of the current in a membrane-covered disc microelectrode under steady-state conditions. Analyst, The, 1996, 121, 1863-1868.	1.7	4
192	Assessing the quality of reports of randomized clinical trials: Is blinding necessary?. Contemporary Clinical Trials, 1996, 17, 1-12.	2.0	16,054
193	Two-dimensional implementation of the finite element method with singularity correction for diffusion limited current at an unshielded disc electrode. Journal of Electroanalytical Chemistry, 1995, 394, 17-28.	1.9	35
194	Effects of propofol and thiopentone, and benzodiazepine premedication on heart rate variability measured by spectral analysis. British Journal of Anaesthesia, 1995, 74, 168-173.	1.5	39
195	Oral morphine in cancer pain: influences on morphine and metabolite concentration. Clinical Pharmacology and Therapeutics, 1990, 48, 236-244.	2.3	156
196	eDiamond: A Grid-Enabled Federated Database of Annotated Mammograms. , 0, , 923-943.		48
197	Hierarchical Bayesian inference for ion channel screening dose-response data. Wellcome Open Research, 0, 1, 6.	0.9	21
198	Hierarchical Bayesian Modelling of Variability and Uncertainty in Synthetic Action Potential Traces. , 0, , .		3