Zhihui Wang

List of Publications by Year
in descending order

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86	2,898	186209	189801
papers	citations	28 h-index	50 g-index

96	96	96	3286
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Multiscale Cancer Modeling. Annual Review of Biomedical Engineering, 2011, 13, 127-155.	5.7	353
2	Establishing the effects of mesoporous silica nanoparticle properties on in vivo disposition using imaging-based pharmacokinetics. Nature Communications, 2018, 9, 4551.	5.8	189
3	Simulating cancer growth with multiscale agent-based modeling. Seminars in Cancer Biology, 2015, 30, 70-78.	4.3	183
4	Multiscale agent-based cancer modeling. Journal of Mathematical Biology, 2009, 58, 545-559.	0.8	136
5	Dithieno[3,2-b:2â€²,3â€²-d]pyrrole-based hole transport materials for perovskite solar cells with efficiencies over 18%. Journal of Materials Chemistry A, 2018, 6, 7950-7958.	5.2	122
6	Mathematical modeling in cancer nanomedicine: a review. Biomedical Microdevices, 2019, 21, 40.	1.4	122
7	Simulating non-small cell lung cancer with a multiscale agent-based model. Theoretical Biology and Medical Modelling, 2007, 4, 50.	2.1	81
8	Therapeutic potential of FLANC, a novel primate-specific long non-coding RNA in colorectal cancer. Gut, 2020, 69, 1818-1831.	6.1	80
9	A Machine Learning Model to Predict Hepatocellular Carcinoma Response to Transcatheter Arterial Chemoembolization. Radiology: Artificial Intelligence, 2019, 1, e180021.	3.0	76
10	Simulating brain tumor heterogeneity with a multiscale agent-based model: Linking molecular signatures, phenotypes and expansion rate. Mathematical and Computer Modelling, 2009, 49, 307-319.	2.0	69
11	Cross-scale, cross-pathway evaluation using an agent-based non-small cell lung cancer model. Bioinformatics, 2009, 25, 2389-2396.	1.8	66
12	Mechanistic patient-specific predictive correlation of tumor drug response with microenvironment and perfusion measurements. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14266-14271.	3.3	65
13	Mechanistic Modeling Identifies Drug-Uptake History as Predictor of Tumor Drug Resistance and Nano-Carrier-Mediated Response. ACS Nano, 2013, 7, 11174-11182.	7.3	63
14	A mathematical model to predict nanomedicine pharmacokinetics and tumor delivery. Computational and Structural Biotechnology Journal, 2020, 18, 518-531.	1.9	61
15	Integrated PK-PD and agent-based modeling in oncology. Journal of Pharmacokinetics and Pharmacodynamics, 2015, 42, 179-189.	0.8	55
16	Theory and Experimental Validation of a Spatio-temporal Model of Chemotherapy Transport to Enhance Tumor Cell Kill. PLoS Computational Biology, 2016, 12, e1004969.	1.5	55
17	Mathematical modeling in cancer drug discovery. Drug Discovery Today, 2014, 19, 145-150.	3.2	53
18	Understanding the Connection between Nanoparticle Uptake and Cancer Treatment Efficacy using Mathematical Modeling. Scientific Reports, 2018, 8, 7538.	1.6	49

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19	Computational modeling of brain tumors: discrete, continuum or hybrid?. Scientific Modeling and Simulation SMNS, 2008, 15, 381.	0.8	45
20	Mathematical prediction of clinical outcomes in advanced cancer patients treated with checkpoint inhibitor immunotherapy. Science Advances, 2020, 6, eaay6298.	4.7	41
21	Sizeâ€Optimized Ultrasmall Porous Silica Nanoparticles Depict Vasculatureâ€Based Differential Targeting in Triple Negative Breast Cancer. Small, 2019, 15, e1903747.	5.2	39
22	An Introduction to Physical Oncology. , 0, , .		39
23	Understanding Drug Resistance in Breast Cancer with Mathematical Oncology. Current Breast Cancer Reports, 2014, 6, 110-120.	0.5	38
24	Intratumoral injection of hydrogel-embedded nanoparticles enhances retention in glioblastoma. Nanoscale, 2020, 12, 23838-23850.	2.8	38
25	Innate Immunity Plays a Key Role in Controlling Viral Load in COVID-19: Mechanistic Insights from a Whole-Body Infection Dynamics Model. ACS Pharmacology and Translational Science, 2021, 4, 248-265.	2.5	36
26	Conversion of RNA Aptamer into Modified DNA Aptamers Provides for Prolonged Stability and Enhanced Antitumor Activity. Journal of the American Chemical Society, 2021, 143, 7655-7670.	6.6	34
27	Cross-scale sensitivity analysis of a non-small cell lung cancer model: Linking molecular signaling properties to cellular behavior. BioSystems, 2008, 92, 249-258.	0.9	31
28	Life Sciences and the web: a new era for collaboration. Molecular Systems Biology, 2008, 4, 201.	3.2	29
29	Identification of Critical Molecular Components in a Multiscale Cancer Model Based on the Integration of Monte Carlo, Resampling, and ANOVA. Frontiers in Physiology, 2011, 2, 35.	1.3	29
30	Impact of Diffusion Barriers to Small Cytotoxic Molecules on the Efficacy of Immunotherapy in Breast Cancer. PLoS ONE, 2013, 8, e61398.	1.1	29
31	Identifying therapeutic targets in a combined EGFR-TGFÂR signalling cascade using a multiscale agent-based cancer model. Mathematical Medicine and Biology, 2012, 29, 95-108.	0.8	28
32	A mathematical model for the quantification of a patientâ€™s sensitivity to checkpoint inhibitors and long-term tumour burden. Nature Biomedical Engineering, 2021, 5, 297-308.	11.6	28
33	Development of a samplingâ€based global sensitivity analysis workflow for multiscale computational cancer models. IET Systems Biology, 2014, 8, 191-197.	0.8	27
34	ncRNA therapy with miRNA-22-3p suppresses the growth of triple-negative breast cancer. Molecular Therapy - Nucleic Acids, 2021, 23, 930-943.	2.3	26
35	Imageâ€guided mathematical modeling for pharmacological evaluation of nanomaterials and monoclonal antibodies. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2020, 12, e1628.	3.3	24
36	Predictive Modeling of Drug Response in Non-Hodgkinâ€™s Lymphoma. PLoS ONE, 2015, 10, e0129433.	1.1	24

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37	Dynamic Targeting in Cancer Treatment. Frontiers in Physiology, 2019, 10, 96.	1.3	22
38	Evaluation of trabecular structure changes in osteoarthritis of the temporomandibular joint with cone beam computed tomography imaging. Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology, 2017, 124, 315-322.	0.2	20
39	Comparison of micro-CT and cone beam CT on the feasibility of assessing trabecular structures in mandibular condyle. Dentomaxillofacial Radiology, 2017, 46, 20160435.	1.3	18
40	Targeted phage display-based pulmonary vaccination in mice and non-human primates. Med, 2021, 2, 321-342.e8.	2.2	18
41	Targeting a cell surface vitamin D receptor on tumor-associated macrophages in triple-negative breast cancer. ELife, 2021, 10, .	2.8	18
42	Sequential deconstruction of composite drug transport in metastatic breast cancer. Science Advances, 2020, 6, eaba4498.	4.7	17
43	Predicting breast cancer response to neoadjuvant chemotherapy based on tumor vascular features in needle biopsies. JCI Insight, 2019, 4, .	2.3	17
44	Cancer dissemination: A consequence of limited carrying capacity?. Medical Hypotheses, 2007, 69, 173-177.	0.8	16
45	A Multiscale Agent-Based Model of Ductal CarcinomaIn Situ. IEEE Transactions on Biomedical Engineering, 2020, 67, 1450-1461.	2.5	16
46	Mathematical Modeling to Address Challenges in Pancreatic Cancer. Current Topics in Medicinal Chemistry, 2020, 20, 367-376.	1.0	16
47	Using magnetic resonance microscopy to study the growth dynamics of a glioma spheroid in collagen I: A case study. BMC Medical Imaging, 2008, 8, 3.	1.4	15
48	Article Commentary: Dealing with Diversity in Computational Cancer Modeling. Cancer Informatics, 2013, 12, CIN.S11583.	0.9	15
49	A Mathematical Model to Estimate Chemotherapy Concentration at the Tumor-Site and Predict Therapy Response in Colorectal Cancer Patients with Liver Metastases. Cancers, 2021, 13, 444.	1.7	14
50	Tumor core biopsies adequately represent immune microenvironment of high-grade serous carcinoma. Scientific Reports, 2019, 9, 17589.	1.6	12
51	Computational modeling of brain tumors: discrete, continuum or hybrid?. Lecture Notes in Computational Science and Engineering, 2008, , 381-393.	0.1	12
52	Translational Modeling Identifies Synergy between Nanoparticle-Delivered miRNA-22 and Standard-of-Care Drugs in Triple-Negative Breast Cancer. Pharmaceutical Research, 2022, 39, 511-528.	1.7	12
53	Discovering molecular targets in cancer with multiscale modeling. Drug Development Research, 2011, 72, 45-52.	1.4	11
54	Accelerating cancer systems biology research through Semantic Web technology. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2013, 5, 135-151.	6.6	11

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55	Editorial Special Section on Multiscale Cancer Modeling. IEEE Transactions on Biomedical Engineering, 2017, 64, 501-503.	2.5	11
56	Personal customizing exercise with a wearable measurement and control unit. Journal of NeuroEngineering and Rehabilitation, 2005, 2, 14.	2.4	10
57	A hybrid agent-based model of the developing mammary terminal end bud. Journal of Theoretical Biology, 2016, 407, 259-270.	0.8	10
58	The Value of Obstetric Ultrasound in Screening Fetal Nervous System Malformation. World Neurosurgery, 2020, 138, 645-653.	0.7	10
59	Imaging-Based Subtypes of Pancreatic Ductal Adenocarcinoma Exhibit Differential Growth and Metabolic Patterns in the Pre-Diagnostic Period: Implications for Early Detection. Frontiers in Oncology, 2020, 10, 596931.	1.3	10
60	Semantically Linking in Silico Cancer Models. Cancer Informatics, 2014, 13s1, CIN.S13895.	0.9	9
61	Early prediction of clinical response to checkpoint inhibitor therapy in human solid tumors through mathematical modeling. ELife, 2021, 10, .	2.8	8
62	A new concept for cancer therapy: out-competing the aggressor. Cancer Cell International, 2008, 8, 19.	1.8	7
63	Genetic and Structural Analysis of SARS-CoV-2 Spike Protein for Universal Epitope Selection. Molecular Biology and Evolution, 2022, 39, .	3.5	7
64	Development of a three dimensional, multiscale agent-based model of ductal carcinoma in situ. , 2017, 2017, 86-89.		6
65	Is the worst of the COVID-19 global pandemic yet to come? Application of financial mathematics as candidate predictive tools. Translational Psychiatry, 2021, 11, 299.	2.4	6
66	Amphibian regeneration and mammalian cancer: Similarities and contrasts from an evolutionary biology perspective. BioEssays, 2021, 43, e2000339.	1.2	5
67	Dedifferentiation-mediated stem cell niche maintenance in early-stage ductal carcinoma in situ progression: insights from a multiscale modeling study. Cell Death and Disease, 2022, 13, .	2.7	5
68	A Java-Based Enterprise System Architecture for Implementing a Continuously Supported and Entirely Web-Based Exercise Solution. IEEE Transactions on Information Technology in Biomedicine, 2006, 10, 403-411.	3.6	4
69	Connecting digital cancer model repositories with markup. ACM SIGBioinformatics Record, 2013, 3, 5-11.	0.3	4
70	Emerging Lipid-Coated Silica Nanoparticles for Cancer Therapy. Nanotechnology in the Life Sciences, 2021, , 335-361.	0.4	4
71	Analysis of magnetic resonance tomographic angiography false negatives in trigeminal neuralgia before microvascular decompression. Oral Radiology, 2017, 33, 45-50.	0.9	3
72	A Multiscale Model to Identify Limiting Factors in Nanoparticle-Based miRNA Delivery for Tumor Inhibition. , 2021, 2021, 4230-4233.		3

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73	A modeling approach to study the normal mammary gland growth process. , 2015, 2015, 1444-7.		2
74	Development of a three dimensional, lattice-free multiscale model of the mammary terminal end bud. , 2016, 2016, 6134-6137.		2
75	Investigating the Effect of Aging on the Pharmacokinetics and Tumor Delivery of Nanomaterials using Mathematical Modeling. , 2020, 2020, 2447-2450.		2
76	Changes in condylar position with maxillary expansion in growing patients. A systematic review of clinical studies. Orthodontic Waves, 2020, 79, 1-10.	0.2	2
77	Predicting immune checkpoint inhibitor response with mathematical modeling. Immunotherapy, 2021, 13, 1151-1155.	1.0	2
78	Understanding Ductal Carcinoma In Situ Invasion using a Multiscale Agent-Based Model*. , 2018, 2018, 5846-5849.		1
79	Development of a Physiologically-Based Mathematical Model for Quantifying Nanoparticle Distribution in Tumors. , 2019, 2019, 2852-2855.		1
80	Multiscale Modeling of Ductal Carcinoma In Situ. Biophysical Journal, 2019, 116, 322a-323a.	0.2	1
81	Development of a Wearable Measurement and Control Unit for Personal Customizing Machine-Supported Exercise. , 2005, 2006, 1000-3.		0
82	Agent-based Modeling. , 2013, , 13-13.		0
83	Integration of Molecular Signaling into Multiscale Modeling of Cancer. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2013, , 381-394.	0.7	0
84	Development of a diffusion-based mathematical model for predicting chemotherapy effects. , 2014, 2014, 2480-3.		0
85	Computer Simulation, Visualization, and Image Processing of Cancer Data and Processes. Cancer Informatics, 2015, 14s4, CIN.S37982.	0.9	0
86	Multilevel Modeling, Cell Proliferation. , 2013, , 1464-1467.		0