

Muhammad H Zaman

List of Publications by Year in descending order

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Version: 2024-02-01

119
papers

5,945
citations

147801

31
h-index

79698

73
g-index

131
all docs

131
docs citations

131
times ranked

8534
citing authors

#	ARTICLE	IF	CITATIONS
1	Patient Access in 14 High-Income Countries to New Antibacterials Approved by the US Food and Drug Administration, European Medicines Agency, Japanese Pharmaceuticals and Medical Devices Agency, or Health Canada, 2010–2020. <i>Clinical Infectious Diseases</i> , 2022, 74, 1183-1190.	5.8	15
2	PharmaChk: A decade of research and development towards the first quantitative, field-based medicine quality screening instrument. <i>Analyst</i> , The, 2022, , .	3.5	0
3	Refugee Crisis: Why Scientists and Scholars Need to Step Up. <i>American Journal of Tropical Medicine and Hygiene</i> , 2022, 107, 12-13.	1.4	0
4	Economic Evaluation of Screening Interventions for Drug-induced Liver Injury. <i>Clinical Infectious Diseases</i> , 2021, 73, e3959-e3965.	5.8	4
5	Supply chain failures amid Covid-19 signal a new pillar for global health preparedness. <i>Journal of Clinical Nursing</i> , 2021, 30, e1-e3.	3.0	16
6	Evaluation of the effect of temperature on the stability and antimicrobial activity of rifampicin quinone. <i>Journal of Pharmaceutical and Biomedical Analysis</i> , 2021, 197, 113941.	2.8	15
7	Continued Outbreak of Ceftriaxone-Resistant <i>Salmonella enterica</i> Serotype Typhi across Pakistan and Assessment of Knowledge and Practices among Healthcare Workers. <i>American Journal of Tropical Medicine and Hygiene</i> , 2021, 104, 1265-1270.	1.4	7
8	Impact of ciprofloxacin impurities on bacterial growth, antibiotic resistance development and content assays. <i>Letters in Applied Microbiology</i> , 2021, 73, 220-228.	2.2	2
9	Inclusion and equity through STEM training. <i>Science</i> , 2021, 372, 926-926.	12.6	1
10	Computational Model To Quantify the Growth of Antibiotic-Resistant Bacteria in Wastewater. <i>MSystems</i> , 2021, 6, e0036021.	3.8	17
11	A mathematical model to estimate the incidence of child wasting in Yemen. <i>Conflict and Health</i> , 2021, 15, 62.	2.7	0
12	Assessing Antimicrobial Resistance, Utilization, and Stewardship in Yemen: An Exploratory Mixed-Methods Study. <i>American Journal of Tropical Medicine and Hygiene</i> , 2021, 105, 1404-1412.	1.4	7
13	A novel jamming phase diagram links tumor invasion to non-equilibrium phase separation. <i>IScience</i> , 2021, 24, 103252.	4.1	43
14	Identification of Multiple Low-Level Resistance Determinants and Coselection of Motility Impairment upon Sub-MIC Ceftriaxone Exposure in <i>Escherichia coli</i> . <i>MSphere</i> , 2021, 6, e0077821.	2.9	7
15	One Health approaches to improve refugee health. <i>The Lancet Global Health</i> , 2021, 9, e1646-e1647.	6.3	7
16	Veterinary antimicrobial resistance containment in Bangladesh: Evaluating the national action plan and scoping the evidence on implementation. <i>Journal of Global Antimicrobial Resistance</i> , 2020, 21, 105-115.	2.2	33
17	Unjamming and collective migration in MCF10A breast cancer cell lines. <i>Biochemical and Biophysical Research Communications</i> , 2020, 521, 706-715.	2.1	42
18	Bacterial antibiotic resistance development and mutagenesis following exposure to subinhibitory concentrations of fluoroquinolones in vitro: a systematic review of the literature. <i>JAC-Antimicrobial Resistance</i> , 2020, 2, dlaa068.	2.1	6

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19	Epithelial layer unjamming shifts energy metabolism toward glycolysis. <i>Scientific Reports</i> , 2020, 10, 18302.	3.3	30
20	A predictive model for healthcare coverage in Yemen. <i>Conflict and Health</i> , 2020, 14, 55.	2.7	0
21	Benchmarking national action plans on antimicrobial resistance in eight selected LMICs: Focus on the veterinary sector strategies. <i>Journal of Global Health</i> , 2020, 10, 020414.	2.7	2
22	Development and selection of low-level multi-drug resistance over an extended range of sub-inhibitory ciprofloxacin concentrations in <i>Escherichia coli</i> . <i>Scientific Reports</i> , 2020, 10, 8754.	3.3	29
23	Heavy Metal Toxicity in Armed Conflicts Potentiates AMR in <i>A. baumannii</i> by Selecting for Antibiotic and Heavy Metal Co-resistance Mechanisms. <i>Frontiers in Microbiology</i> , 2020, 11, 68.	3.5	79
24	Cytoskeletal tubulin competes with actin to increase deformability of metastatic melanoma cells. <i>Experimental Cell Research</i> , 2020, 394, 112154.	2.6	3
25	Core Competencies for Undergraduates in Bioengineering and Biomedical Engineering: Findings, Consequences, and Recommendations. <i>Annals of Biomedical Engineering</i> , 2020, 48, 905-912.	2.5	37
26	Are the Effects of Independent Biophysical Factors Linearly Additive? A 3D Tumor Migration Model. <i>Biophysical Journal</i> , 2019, 117, 1702-1713.	0.5	6
27	Predicting resource-dependent maternal health outcomes at a referral hospital in Zanzibar using patient trajectories and mathematical modeling. <i>PLoS ONE</i> , 2019, 14, e0212753.	2.5	4
28	A quantitative electrochemical assay for liver injury. <i>Biosensors and Bioelectronics</i> , 2019, 131, 74-78.	10.1	12
29	Bacterial antibiotic resistance development and mutagenesis following exposure to subminimal inhibitory concentrations of fluoroquinolones in vitro: a systematic literature review protocol. <i>BMJ Open</i> , 2019, 9, e030747.	1.9	9
30	The need for comprehensive and multidisciplinary training in substandard and falsified medicines for pharmacists. <i>BMJ Global Health</i> , 2019, 4, e001681.	4.7	11
31	Evolution of Rifampin Resistance in <i>Escherichia coli</i> and <i>Mycobacterium smegmatis</i> Due to Substandard Drugs. <i>Antimicrobial Agents and Chemotherapy</i> , 2019, 63, .	3.2	30
32	Towards better diagnostic tools for liver injury in low-income and middle-income countries. <i>BMJ Global Health</i> , 2019, 4, e001704.	4.7	6
33	Connecting planetary health, climate change, and migration. <i>Lancet Planetary Health</i> , The, 2018, 2, e58-e59.	11.4	30
34	Characterization of the mechanical properties of cancer cells in 3D matrices in response to collagen concentration and cytoskeletal inhibitors. <i>Integrative Biology (United Kingdom)</i> , 2018, 10, 232-241.	1.3	29
35	Antimicrobial resistance in livestock and poor quality veterinary medicines. <i>Bulletin of the World Health Organization</i> , 2018, 96, 662-664.	3.3	55
36	Improving societies' harassment policies. <i>Science</i> , 2018, 361, 984-985.	12.6	0

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37	Small volume method for drug release screening using ultrasonic agitation. <i>Analyst, The</i> , 2018, 143, 4732-4740.	3.5	5
38	Computational model of wound healing: EGF secreted by fibroblasts promotes delayed re-epithelialization of epithelial keratinocytes. <i>Integrative Biology (United Kingdom)</i> , 2018, 10, 605-634.	1.3	16
39	Modeling the impact of drug interactions on therapeutic selectivity. <i>Nature Communications</i> , 2018, 9, 3452.	12.8	18
40	Solid dissolution in a fluid solvent is characterized by the interplay of surface area-dependent diffusion and physical fragmentation. <i>Scientific Reports</i> , 2018, 8, 7711.	3.3	30
41	Interstitial flow promotes macrophage polarization toward an M2 phenotype. <i>Molecular Biology of the Cell</i> , 2018, 29, 1927-1940.	2.1	83
42	Mechanical confinement via a PEG/Collagen interpenetrating network inhibits behavior characteristic of malignant cells in the triple negative breast cancer cell line MDA.MB.231. <i>Acta Biomaterialia</i> , 2018, 77, 85-95.	8.3	26
43	Modeling patient access to therapeutic oxytocin in Zanzibar, Tanzania. <i>BMC Health Services Research</i> , 2018, 18, 645.	2.2	3
44	Quantitative bioassay to identify antimicrobial drugs through drug interaction fingerprint analysis. <i>Scientific Reports</i> , 2017, 7, 42644.	3.3	10
45	Integrated Analysis of Intracellular Dynamics of MenaINV Cancer Cells in a 3D Matrix. <i>Biophysical Journal</i> , 2017, 112, 1874-1884.	0.5	14
46	Breast Cancer Spheroids Reveal a Differential Cancer Stem Cell Response to Chemotherapeutic Treatment. <i>Scientific Reports</i> , 2017, 7, 10382.	3.3	112
47	Multiscale dynamics of the biophysical and biochemical microenvironment. <i>Physics of Life Reviews</i> , 2017, 22-23, 127-129.	2.8	2
48	Dynamic interplay between tumour, stroma and immune system can drive or prevent tumour progression. <i>Convergent Science Physical Oncology</i> , 2017, 3, 034002.	2.6	114
49	Modeling, signaling and cytoskeleton dynamics: integrated modeling&Experimental frameworks in cell migration. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , 2017, 9, e1365.	6.6	26
50	Examining the need & potential for biomedical engineering to strengthen health care delivery for displaced populations & victims of conflict. <i>Conflict and Health</i> , 2017, 11, 20.	2.7	1
51	The Integrated Role of Wnt/ β -Catenin, N-Glycosylation, and E-Cadherin-Mediated Adhesion in Network Dynamics. <i>PLoS Computational Biology</i> , 2016, 12, e1005007.	3.2	20
52	Engineering, global health, and inclusive innovation: focus on partnership, system strengthening, and local impact for SDGs. <i>Global Health Action</i> , 2016, 9, 30175.	1.9	38
53	Controlling uncertainty in aptamer selection. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 12076-12081.	7.1	43
54	Development of a novel method of misoprostol detection on filter paper: Proof-of-concept. <i>Biomedical Engineering Letters</i> , 2016, 6, 94-99.	4.1	1

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55	A Computational Model of YAP/TAZ Mechanosensing. <i>Biophysical Journal</i> , 2016, 110, 2540-2550.	0.5	61
56	Effects of 3D geometries on cellular gradient sensing and polarization. <i>Physical Biology</i> , 2016, 13, 036008.	1.8	21
57	Single-Cell Migration in Complex Microenvironments: Mechanics and Signaling Dynamics. <i>Journal of Biomechanical Engineering</i> , 2016, 138, 021004.	1.3	74
58	Interplay of active processes modulates tension and drives phase transition in self-renewing, motor-driven cytoskeletal networks. <i>Nature Communications</i> , 2016, 7, 10323.	12.8	76
59	Impact of the physical microenvironment on tumor progression and metastasis. <i>Current Opinion in Biotechnology</i> , 2016, 40, 41-48.	6.6	437
60	Exploring the Role of Ad Hoc Grassroots Organizations Providing Humanitarian Aid on Lesbos, Greece. <i>PLOS Currents</i> , 2016, 8, .	1.4	13
61	Rapid Quantification of 3D Collagen Fiber Alignment and Fiber Intersection Correlations with High Sensitivity. <i>PLoS ONE</i> , 2015, 10, e0131814.	2.5	30
62	Multiscale mechanobiology: computational models for integrating molecules to multicellular systems. <i>Integrative Biology (United Kingdom)</i> , 2015, 7, 1093-1108.	1.3	33
63	TNF α antagonization alters NOS2 dependent nasopharyngeal carcinoma tumor growth. <i>Cytokine</i> , 2015, 74, 157-163.	3.2	9
64	Collective motion of mammalian cell cohorts in 3D. <i>Integrative Biology (United Kingdom)</i> , 2015, 7, 1526-1533.	1.3	11
65	Amperometric measurements of ethanol on paper with a glucometer. <i>Talanta</i> , 2015, 134, 194-199.	5.5	16
66	Impact of Dimensionality and Network Disruption on Microrheology of Cancer Cells in 3D Environments. <i>PLoS Computational Biology</i> , 2014, 10, e1003959.	3.2	35
67	Multiscale analysis of cancer cell mechanics. , 2014, , .		0
68	Influence of the microenvironment on cell fate determination and migration. <i>Physiological Genomics</i> , 2014, 46, 309-314.	2.3	54
69	Models of education in medicine, public health, and engineering. <i>Science</i> , 2014, 345, 1281-1283.	12.6	11
70	Modeling of adhesion, protrusion, and contraction coordination for cell migration simulations. <i>Journal of Mathematical Biology</i> , 2014, 68, 267-302.	1.9	16
71	Computational Modeling of Stem Cell Migration: A Mini Review. <i>Cellular and Molecular Bioengineering</i> , 2014, 7, 196-204.	2.1	3
72	Schwann cell response on polypyrrole substrates upon electrical stimulation. <i>Acta Biomaterialia</i> , 2014, 10, 2423-2433.	8.3	62

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73	Combinative in vitro studies and computational model to predict 3D cell migration response to drug insult. Integrative Biology (United Kingdom), 2014, 6, 957-972.	1.3	7
74	Modeling Persistence in Mesenchymal Cell Motility Using Explicit Fibers. Langmuir, 2014, 30, 5506-5509.	3.5	7
75	Stability measurements of antibodies stored on paper. Analytical Biochemistry, 2014, 449, 147-154.	2.4	22
76	Embedded multicellular spheroids as a biomimetic 3D cancer model for evaluating drug and drug-device combinations. Biomaterials, 2014, 35, 2264-2271.	11.4	151
77	The role of engineering approaches in analysing cancer invasion and metastasis. Nature Reviews Cancer, 2013, 13, 596-603.	28.4	53
78	Analytic Study of Three-Dimensional Single Cell Migration with and without Proteolytic Enzymes. Cellular and Molecular Bioengineering, 2013, 6, 239-249.	2.1	4
79	Decoupling Directed and Passive Motion in Dynamic Systems: Particle Tracking Microrheology of Sputum. Annals of Biomedical Engineering, 2013, 41, 837-846.	2.5	7
80	Modeling the Mechanics of Cancer: Effect of Changes in Cellular and Extra-Cellular Mechanical Properties. Frontiers in Oncology, 2013, 3, 145.	2.8	87
81	Computational Model to Probe Cellular Mechanics during Epithelial-Mesenchymal Transition. Cells Tissues Organs, 2013, 197, 435-444.	2.3	11
82	A Computational Model for Collective Cellular Motion in Three Dimensions: General Framework and Case Study for Cell Pair Dynamics. PLoS ONE, 2013, 8, e59249.	2.5	24
83	Modeling Extracellular Matrix Reorganization in 3D Environments. PLoS ONE, 2013, 8, e52509.	2.5	27
84	A Quantitative Comparison of Human HT-1080 Fibrosarcoma Cells and Primary Human Dermal Fibroblasts Identifies a 3D Migration Mechanism with Properties Unique to the Transformed Phenotype. PLoS ONE, 2013, 8, e81689.	2.5	32
85	Integrin Clustering in Two and Three Dimensions. Langmuir, 2012, 28, 5379-5386.	3.5	21
86	Alteration of Cellular Behavior and Response to PI3K Pathway Inhibition by Culture in 3D Collagen Gels. PLoS ONE, 2012, 7, e48024.	2.5	73
87	Bioengineering approaches to study multidrug resistance in tumor cells. Integrative Biology (United Kingdom), 2014, 6, 957-972.	1.3	7
88	Systems Biology of Tumor Cell Migration in 3D: Protein Signaling. , 2011, , 123-149.		0
89	Cancer Cell Migration: Integrated Roles of Matrix Mechanics and Transforming Potential. PLoS ONE, 2011, 6, e20355.	2.5	42
90	Quantitative Analysis of the Effect of Cancer Invasiveness and Collagen Concentration on 3D Matrix Remodeling. PLoS ONE, 2011, 6, e24891.	2.5	52

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91	Collective cell guidance by cooperative intercellular forces. <i>Nature Materials</i> , 2011, 10, 469-475.	27.5	781
92	Computational Model for Migration of a Cell Cluster in Three-Dimensional Matrices. <i>Annals of Biomedical Engineering</i> , 2011, 39, 2068-2079.	2.5	8
93	Viscoelastic Gel-Strip Model for the Simulation of Migrating Cells. <i>Annals of Biomedical Engineering</i> , 2011, 39, 2735-2749.	2.5	22
94	Biomedical engineering education and practice challenges and opportunities in improving health in developing countries. , 2011, , .		8
95	The biomechanical integrin. <i>Journal of Biomechanics</i> , 2010, 43, 38-44.	2.1	80
96	Computational Study of Proteolysis-Driven Single Cell Migration in a Three-Dimensional Matrix. <i>Annals of Biomedical Engineering</i> , 2010, 38, 1815-1825.	2.5	18
97	Estimation of Cellular Adhesion Forces Using Mean Field Theory. <i>Cellular and Molecular Bioengineering</i> , 2010, 3, 190-194.	2.1	3
98	Cancer Cell Stiffness: Integrated Roles of Three-Dimensional Matrix Stiffness and Transforming Potential. <i>Biophysical Journal</i> , 2010, 99, 2048-2057.	0.5	137
99	A synthetic strategy for mimicking the extracellular matrix provides new insight about tumor cell migration. <i>Integrative Biology (United Kingdom)</i> , 2010, 2, 32-40.	1.3	79
100	Engineering education in the developing world: The case for biological engineering. , 2010, , .		2
101	Equilibrium and Non-Equilibrium Thermodynamic Processes in Cell-Matrix Interactions. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2009, 34, .	4.2	0
102	Actin-Fascin Bundle Formation Under Pressure. <i>Cellular and Molecular Bioengineering</i> , 2009, 2, 2-12.	2.1	0
103	Serine at Phosphorylation Site Regulates the Mechanical and Structural Behavior of Fascin. <i>Cellular and Molecular Bioengineering</i> , 2009, 2, 504-513.	2.1	0
104	Extracellular Matrix Stiffness and Architecture Govern Intracellular Rheology in Cancer. <i>Biophysical Journal</i> , 2009, 97, 1013-1021.	0.5	174
105	Thermodynamics of clustered and unclustered receptor systems in cell adhesion. <i>Chemical Physics Letters</i> , 2008, 454, 362-366.	2.6	6
106	Microarchitecture of Three-Dimensional Scaffolds Influences Cell Migration Behavior via Junction Interactions. <i>Biophysical Journal</i> , 2008, 95, 4013-4024.	0.5	313
107	Dependence of Invadopodia Function on Collagen Fiber Spacing and Cross-Linking: Computational Modeling and Experimental Evidence. <i>Biophysical Journal</i> , 2008, 95, 2203-2218.	0.5	67
108	Cell Adhesion to Nanoligands: Effects of Ligand Size and Concentration in Solution. <i>Langmuir</i> , 2008, 24, 11819-11827.	3.5	2

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109	Computer Simulations in Connective Tissue Research: Successes and Challenges. <i>Connective Tissue Research</i> , 2008, 49, 162-164.	2.3	1
110	Free energy landscape of receptor-mediated cell adhesion. <i>Journal of Chemical Physics</i> , 2007, 126, 045103.	3.0	11
111	A multiscale probabilistic framework to model early steps in tumor metastasis. <i>MCB Molecular and Cellular Biomechanics</i> , 2007, 4, 133-41.	0.7	7
112	Understanding Effects of Matrix Protease and Matrix Organization on Directional Persistence and Translational Speed in Three-Dimensional Cell Migration. <i>Annals of Biomedical Engineering</i> , 2006, 35, 91-100.	2.5	54
113	Multiscale Modeling of Tumor Cell Migration. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	3
114	Migration of tumor cells in 3D matrices is governed by matrix stiffness along with cell-matrix adhesion and proteolysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 10889-10894.	7.1	1,029
115	Computational Model for Cell Migration in Three-Dimensional Matrices. <i>Biophysical Journal</i> , 2005, 89, 1389-1397.	0.5	236
116	Misfolding dynamics of human prion protein. <i>MCB Molecular and Cellular Biomechanics</i> , 2005, 2, 179-90.	0.7	1
117	Investigations into Sequence and Conformational Dependence of Backbone Entropy, Inter-basin Dynamics and the Flory Isolated-pair Hypothesis for Peptides. <i>Journal of Molecular Biology</i> , 2003, 331, 693-711.	4.2	118
118	Temperature dependence of reactions with multiple pathways. <i>Physical Chemistry Chemical Physics</i> , 2003, 5, 2589.	2.8	17
119	Quantitative assay for ciprofloxacin and enrofloxacin formulations. <i>Journal of Global Health Reports</i> , 0, 3, .	1.0	0