Daphne Weihs

List of Publications by Year
in descending order

75 papers	1,580 citations	318942 23 h-index	371746 37 g-index
76 all docs	76 docs citations	76 times ranked	1870 citing authors

#	Article	IF	Citations
1	Computational modeling reveals a vital role for proximity-driven additive and synergistic cell-cell interactions in increasing cancer invasiveness. Acta Biomaterialia, 2023, 163, 392-399.	4.1	3
2	T Cells Promote Metastasis by Regulating Extracellular Matrix Remodeling following Chemotherapy. Cancer Research, 2022, 82, 278-291.	0.4	34
3	Breast cancer stem cells: mechanobiology reveals highly invasive cancer cell subpopulations. Cellular and Molecular Life Sciences, 2022, 79, 134.	2.4	6
4	Actin as a Target to Reduce Cell Invasiveness in Initial Stages of Metastasis. Annals of Biomedical Engineering, 2021, 49, 1342-1352.	1.3	10
5	The mechanobiology of adipocytes in the context of diabetes. , 2021, , 143-160.		0
6	Modeling force application configurations and morphologies required for cancer cell invasion. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1187-1194.	1.4	10
7	A formalism for modelling traction forces and cell shape evolution during cell migration in various biomedical processes. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1459-1475.	1.4	6
8	Rapid, quantitative prediction of tumor invasiveness in non-melanoma skin cancers using mechanobiology-based assay. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1767-1774.	1.4	6
9	Mechanical interactions of invasive cancer cells through their substrate evolve from additive to synergistic. Journal of Biomechanics, 2021, 129, 110759.	0.9	3
10	Machine-Learning Provides Patient-Specific Prediction of Metastatic Risk Based on Innovative, Mechanobiology Assay. Annals of Biomedical Engineering, 2021, 49, 1774-1783.	1.3	3
11	Computational modeling of therapy on pancreatic cancer in its early stages. Biomechanics and Modeling in Mechanobiology, 2020, 19, 427-444.	1.4	14
12	Micropatterned topographies reveal measurable differences between cancer and benign cells. Medical Engineering and Physics, 2020, 75, 5-12.	0.8	13
13	FiniteÂelement analysis reveals an important role for cell morphology in response to mechanical compression. Biomechanics and Modeling in Mechanobiology, 2020, 19, 1155-1164.	1.4	10
14	Lung mechanics modifications facilitating metastasis are mediated in part by breast cancerâ€derived extracellular vesicles. International Journal of Cancer, 2020, 147, 2924-2933.	2.3	23
15	A Cellular Automata Model of Oncolytic Virotherapy in Pancreatic Cancer. Bulletin of Mathematical Biology, 2020, 82, 103.	0.9	4
16	Two- and three-dimensional de-drifting algorithms for fiducially marked image stacks. Journal of Biomechanics, 2020, 110, 109967.	0.9	3
17	Rapid Cancer Diagnosis and Early Prognosis of Metastatic Risk Based on Mechanical Invasiveness of Sampled Cells. Annals of Biomedical Engineering, 2020, 48, 2846-2858.	1.3	15
18	Bioengineering studies of cell migration in wound research. , 2020, , 103-122.		0

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19	Sodium pyruvate preâ€treatment prevents cell death due to localised, damaging mechanical strains in the context of pressure ulcers. International Wound Journal, 2019, 16, 1153-1163.	1.3	4
20	Traction Force Microscopy in Differentiating Cells. Computational Methods in Applied Sciences (Springer), 2019, , 21-30.	0.1	0
21	Non-damaging stretching combined with sodium pyruvate supplement accelerate migration of fibroblasts and myoblasts during gap closure. Clinical Biomechanics, 2019, 62, 96-103.	0.5	14
22	Computational Cell-Based Modeling and Visualization of Cancer Development and Progression. Lecture Notes in Computational Vision and Biomechanics, 2019, , 93-119.	0.5	0
23	A Particle Finite Elementâ€"Based Framework for Differentiation Paths of Stem Cells to Myocytes and Adipocytes. , 2018, , 171-185.		0
24	A model for cell migration in non-isotropic fibrin networks with an application to pancreatic tumor islets. Biomechanics and Modeling in Mechanobiology, 2018, 17, 367-386.	1.4	17
25	Contemporary oncology research: a special issue on the mechanobiology and biophysics of cancer development and progression. Convergent Science Physical Oncology, 2018, 4, 010201.	2.6	0
26	A phenomenological model for cell and nucleus deformation during cancer metastasis. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1429-1450.	1.4	27
27	Mechanobiology of metastatic cancer. , 2018, , 449-494.		3
28	Effect of Natural Honey Treatment and External Stretching on Kinematics of Cell Migration During Gap Closure. Lecture Notes in Bioengineering, 2018, , 75-80.	0.3	1
29	Proximity of Metastatic Cells Strengthens the Mechanical Interaction with Their Environment. Lecture Notes in Bioengineering, 2018, , 253-258.	0.3	0
30	Cellâ€"Gel Mechanical Interactions as an Approach to Rapidly and Quantitatively Reveal Invasive Subpopulations of Metastatic Cancer Cells. Tissue Engineering - Part C: Methods, 2017, 23, 180-187.	1.1	23
31	Proximity of Metastatic Cells Enhances Their Mechanobiological Invasiveness. Annals of Biomedical Engineering, 2017, 45, 1399-1406.	1.3	26
32	Complex, Dynamic Behavior of Extremely Asymmetric Di-<i>n</i>-Alkylphosphate-Anion Aggregates, the Long-Chain Effect and the Role of a Limiting Size: Cryo-TEM, SANS, and X-Ray Diffraction Studies. Journal of Physical Chemistry B, 2017, 121, 4099-4114.	1.2	5
33	Metastatic breast cancer cells adhere strongly on varying stiffness substrates, initially without adjusting their morphology. Biomechanics and Modeling in Mechanobiology, 2017, 16, 961-970.	1.4	37
34	Control of cell proliferation by a porous chitosan scaffold with multiple releasing capabilities. Science and Technology of Advanced Materials, 2017, 18, 987-996.	2.8	26
35	Lowâ€level stretching accelerates cell migration into a gap. International Wound Journal, 2017, 14, 698-703.	1.3	23
36	Taxol reduces synergistic, mechanobiological invasiveness of metastatic cells. Convergent Science Physical Oncology, 2017, 3, 044002.	2.6	14

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37	Printable low-cost, sustained and dynamic cell stretching apparatus. Journal of Biomechanics, 2016, 49, 1336-1339.	0.9	17
38	Modern cell biomechanics: A special issue on motility and dynamics of living cells in health, disease and healing. Journal of Biomechanics, 2016, 49, 1271.	0.9	1
39	Review on experiment-based two- and three-dimensional models for wound healing. Interface Focus, 2016, 6, 20160038.	1.5	11
40	Cytoskeleton and plasma-membrane damage resulting from exposure to sustained deformations: A review of the mechanobiology of chronic wounds. Medical Engineering and Physics, 2016, 38, 828-833.	0.8	51
41	Asymmetry in traction forces produced by migrating preadipocytes is bounded to 33%. Medical Engineering and Physics, 2016, 38, 834-838.	0.8	15
42	Mechanical cytoprotection: A review of cytoskeleton-protection approaches for cells. Journal of Biomechanics, 2016, 49, 1321-1329.	0.9	27
43	A phase-contrast microscopy-based method for modeling the mechanical behavior of mesenchymal stem cells. Computer Methods in Biomechanics and Biomedical Engineering, 2016, 19, 1359-1362.	0.9	2
44	Modeling migration in cell colonies in two and three dimensional substrates with varying stiffnesses. In Silico Cell and Tissue Science, 2015, 2, .	2.6	10
45	Mechanical Interaction of Metastatic Cancer Cells with a Soft Gel. Procedia IUTAM, 2015, 12, 211-219.	1.2	16
46	Embryonic stem cells growing in 3-dimensions shift from reliance on the substrate to each other for mechanical support. Journal of Biomechanics, 2015, 48, 1777-1781.	0.9	14
47	Ratio of total traction force to projected cell area is preserved in differentiating adipocytes. Integrative Biology (United Kingdom), 2015, 7, 1212-1217.	0.6	29
48	Quantitative measures to reveal coordinated cytoskeleton-nucleus reorganization during<i>in vitro</i>invasion of cancer cells. New Journal of Physics, 2015, 17, 043010.	1.2	37
49	Effects of particle uptake, encapsulation, and localization in cancer cells on intracellular applications. Medical Engineering and Physics, 2015, 37, 478-483.	0.8	17
50	Towards a Mathematical Formalism for Semi-stochastic Cell-Level Computational Modeling of Tumor Initiation. Annals of Biomedical Engineering, 2015, 43, 1680-1694.	1.3	18
51	Particle tracking in living cells: a review of the mean square displacement method and beyond. Rheologica Acta, 2013, 52, 425-443.	1.1	116
52	Origin of active transport in breast-cancer cells. Soft Matter, 2013, 9, 7167.	1.2	29
53	Metastatic cancer cells tenaciously indent impenetrable, soft substrates. New Journal of Physics, 2013, 15, 035022.	1.2	46
54	Flexible blade for in-line measurement of low-range viscosity. Chemical Engineering Science, 2013, 91, 130-133.	1.9	4

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55	Location-dependent intracellular particle tracking using a cell-based coordinate system. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 1042-1049.	0.9	4
56	Aggregate Structures of Asymmetric Di-Alkyl Phosphate Anions and the Role of Conformations about the Polar Region: SANS, Cryo-TEM, Raman Scattering, ¹³C NMR, and Selective NOE Studies. Journal of Physical Chemistry B, 2012, 116, 3538-3550.	1.2	6
57	Low intensity ultrasound perturbs cytoskeleton dynamics. Soft Matter, 2012, 8, 2438.	1.2	73
58	Intracellular Mechanics and Activity of Breast Cancer Cells Correlate with Metastatic Potential. Cell Biochemistry and Biophysics, 2012, 63, 199-209.	0.9	80
59	Novel algorithm and MATLAB-based program for automated power law analysis of single particle, time-dependent mean-square displacement. Computer Physics Communications, 2012, 183, 1783-1792.	3.0	9
60	Image-based algorithm for analysis of transient trapping in single-particle trajectories. Microfluidics and Nanofluidics, 2012, 12, 337-344.	1.0	5
61	Time-Dependent Micromechanical Responses of Breast Cancer Cells and Adjacent Fibroblasts to Electric Treatment. Cell Biochemistry and Biophysics, 2011, 61, 605-618.	0.9	23
62	Rheology and microrheology of natural and reduced-calorie Israeli honeys as a model for high-viscosity Newtonian liquids. Journal of Food Engineering, 2010, 100, 366-371.	2.7	41
63	Experimental evidence of strong anomalous diffusion in living cells. Physical Review E, 2010, 81, 020903.	0.8	127
64	Effects of cancer cell metastatic potential on intracellular mechanics. , 2010, , .		0
65	Effects of Sugar Content and Temperature on Rheology and Microrheology of Israeli Honey. AIP Conference Proceedings, 2008, , .	0.3	2
66	Low Intensity Therapeutic Ultrasound Effect on Nano-Particle Motion in a Viscous Medium. , 2008, , .		0
67	Effects of cytoskeletal disruption on transport, structure, and rheology within mammalian cells. Physics of Fluids, 2007, 19, 103102.	1.6	26
68	A comparative study of microstructural development in paired human hepatic and gallbladder biles. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 2007, 1771, 1289-1298.	1.2	4
69	Simulations of complex particle transport in heterogeneous active liquids. Microfluidics and Nanofluidics, 2007, 3, 227-237.	1.0	20
70	Bio-Microrheology: A Frontier in Microrheology. Biophysical Journal, 2006, 91, 4296-4305.	0.2	173
71	Self-aggregation in dimeric arginine-based cationic surfactants solutions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 255, 73-78.	2.3	23
72	Biliary cholesterol crystallization characterized by single-crystal cryogenic electron diffraction. Journal of Lipid Research, 2005, 46, 942-948.	2.0	29

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73	Evolution of Lipid Aggregates and Cholesterol Precipitation in Nucleating Model and Human Biles. Microscopy and Microanalysis, 2004, 10, 418-419.	0.2	0
74	Microstructures in the aqueous solutions of a hybrid anionic fluorocarbon/hydrocarbon surfactant. Journal of Colloid and Interface Science, 2003, 259, 382-390.	5.0	43
75	Microstructural evolution of lipid aggregates in nucleating model and human biles visualized by cryogenic transmission electron microscopy. Hepatology, 2000, 31, 261-268.	3.6	49