

William J Polacheck

List of Publications by Year in descending order

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Version: 2024-02-01

42
papers

3,926
citations

279701

23
h-index

315616

38
g-index

45
all docs

45
docs citations

45
times ranked

6413
citing authors

#	ARTICLE	IF	CITATIONS
1	Titin mutations in iPS cells define sarcomere insufficiency as a cause of dilated cardiomyopathy. <i>Science</i> , 2015, 349, 982-986.	6.0	508
2	Interstitial flow influences direction of tumor cell migration through competing mechanisms. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 11115-11120.	3.3	412
3	Measuring cell-generated forces: a guide to the available tools. <i>Nature Methods</i> , 2016, 13, 415-423.	9.0	380
4	Noncontact three-dimensional mapping of intracellular hydromechanical properties by Brillouin microscopy. <i>Nature Methods</i> , 2015, 12, 1132-1134.	9.0	326
5	A non-canonical Notch complex regulates adherens junctions and vascular barrier function. <i>Nature</i> , 2017, 552, 258-262.	13.7	262
6	Microfluidic platforms for mechanobiology. <i>Lab on A Chip</i> , 2013, 13, 2252.	3.1	226
7	Mechanotransduction of fluid stresses governs 3D cell migration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 2447-2452.	3.3	214
8	Matrix degradability controls multicellularity of 3D cell migration. <i>Nature Communications</i> , 2017, 8, 371.	5.8	192
9	Tumor cell migration in complex microenvironments. <i>Cellular and Molecular Life Sciences</i> , 2013, 70, 1335-1356.	2.4	183
10	Methods for Photocrosslinking Alginate Hydrogel Scaffolds with High Cell Viability. <i>Tissue Engineering - Part C: Methods</i> , 2011, 17, 173-179.	1.1	167
11	Microfabricated blood vessels for modeling the vascular transport barrier. <i>Nature Protocols</i> , 2019, 14, 1425-1454.	5.5	123
12	Force Generation via β -Cardiac Myosin, Titin, and β -Actinin Drives Cardiac Sarcomere Assembly from Cell-Matrix Adhesions. <i>Developmental Cell</i> , 2018, 44, 87-96.e5.	3.1	120
13	Three-dimensional biomimetic vascular model reveals a RhoA, Rac1, and N-cadherin balance in mural cell endothelial cell-regulated barrier function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 8758-8763.	3.3	96
14	Stiffness of photocrosslinked RGD-alginate gels regulates adipose progenitor cell behavior. <i>Biotechnology and Bioengineering</i> , 2011, 108, 1683-1692.	1.7	91
15	Engineering of In Vitro 3D Capillary Beds by Self-Directed Angiogenic Sprouting. <i>PLoS ONE</i> , 2012, 7, e50582.	1.1	78
16	A microfluidics assay to study invasion of human placental trophoblast cells. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170131.	1.5	68
17	Photodynamic Therapy and the Biophysics of the Tumor Microenvironment. <i>Photochemistry and Photobiology</i> , 2020, 96, 232-259.	1.3	55
18	A Bile Duct-on-a-Chip With Organ-Level Functions. <i>Hepatology</i> , 2020, 71, 1350-1363.	3.6	50

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19	Functional angiogenesis requires microenvironmental cues balancing endothelial cell migration and proliferation. <i>Lab on A Chip</i> , 2020, 20, 1153-1166.	3.1	48
20	Malignant Ascites in Ovarian Cancer: Cellular, Acellular, and Biophysical Determinants of Molecular Characteristics and Therapy Response. <i>Cancers</i> , 2021, 13, 4318.	1.7	47
21	Inhibition of $\alpha_5\beta_1$ Integrin Attenuates Vascular Permeability and Protects against Renal Ischemia-Reperfusion Injury. <i>Journal of the American Society of Nephrology: JASN</i> , 2017, 28, 1741-1752.	3.0	31
22	Synthetic extracellular matrices with tailored adhesiveness and degradability support lumen formation during angiogenic sprouting. <i>Nature Communications</i> , 2021, 12, 3402.	5.8	31
23	Uncovering mutation-specific morphogenic phenotypes and paracrine-mediated vessel dysfunction in a biomimetic vascularized mammary duct platform. <i>Nature Communications</i> , 2020, 11, 3377.	5.8	30
24	A vascularized model of the human liver mimics regenerative responses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	27
25	Probabilistic Voxel-Fe model for single cell motility in 3D. <i>In Silico Cell and Tissue Science</i> , 2014, 1, 2.	2.6	26
26	Microfluidic and Organ-on-a-Chip Approaches to Investigate Cellular and Microenvironmental Contributions to Cardiovascular Function and Pathology. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021, 9, 624435.	2.0	25
27	Direct comparison of angiogenesis in natural and synthetic biomaterials reveals that matrix porosity regulates endothelial cell invasion speed and sprout diameter. <i>Acta Biomaterialia</i> , 2021, 135, 260-273.	4.1	22
28	Microfluidics for the study of mechanotransduction. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 224004.	1.3	21
29	Proliferation-independent role of NF2 (merlin) in limiting biliary morphogenesis. <i>Development (Cambridge)</i> , 2018, 145, .	1.2	15
30	Microfluidic model of monocyte extravasation reveals the role of hemodynamics and subendothelial matrix mechanics in regulating endothelial integrity. <i>Biomicrofluidics</i> , 2021, 15, 054102.	1.2	10
31	Collective tumor cell migration in the presence of fibroblasts. <i>Journal of Biomechanics</i> , 2020, 100, 109568.	0.9	9
32	Control of the Electromechanical Properties of Alginate Hydrogels via Ionic and Covalent Cross-Linking and Microparticle Doping. <i>Biomacromolecules</i> , 2010, 11, 2184-2189.	2.6	8
33	Mechanical Modulation of Ovarian Cancer Tumor Nodules Under Flow. <i>IEEE Transactions on Biomedical Engineering</i> , 2022, 69, 294-301.	2.5	6
34	Adherens junction engagement regulates functional patterning of the cardiac pacemaker cell lineage. <i>Developmental Cell</i> , 2021, 56, 1498-1511.e7.	3.1	6
35	Multilayer microfluidic platform for the study of luminal, transmural, and interstitial flow. <i>Biofabrication</i> , 2022, 14, 025007.	3.7	6
36	Bile Duct-on-a-Chip. <i>Methods in Molecular Biology</i> , 2022, 2373, 57-68.	0.4	3

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37	Mechanotransduction of Interstitial Fluid Stresses by Tumor Cells within 3D Collagen Scaffolds. Biophysical Journal, 2013, 104, 322a.	0.2	1
38	Responsible Research in an International Laboratory. The Journal of Philosophy, Science & Law, 2014, 14, 13-31.	0.3	1
39	REPLY:. Hepatology, 2021, 73, 872-873.	3.6	0
40	Direct Comparison of Angiogenesis in Natural and Synthetic Biomaterials Reveals Matrix Porosity Regulates Endothelial Cell Invasion Speed and Sprout Diameter. SSRN Electronic Journal, 0, , .	0.4	0
41	Interstitial Flow and Effects on Tumor Cell Migration. , 2010, , .		0
42	Adherens Junction Engagement Regulates Functional Patterning of the Cardiac Pacemaker Cell Lineage. SSRN Electronic Journal, 0, , .	0.4	0