Adam Feinberg

List of Publications by Year
in descending order

85 papers	9,237 citations	81900 39 h-index	60623 81 g-index
93 all docs	93 docs citations	93 times ranked	10636 citing authors

#	Article	IF	Citations
1	Three-dimensional printing of complex biological structures by freeform reversible embedding of suspended hydrogels. Science Advances, 2015, 1, e1500758.	10.3	1,306
2	3D bioprinting of collagen to rebuild components of the human heart. Science, 2019, 365, 482-487.	12.6	1,116
3	Muscular Thin Films for Building Actuators and Powering Devices. Science, 2007, 317, 1366-1370.	12.6	662
4	A tissue-engineered jellyfish with biomimetic propulsion. Nature Biotechnology, 2012, 30, 792-797.	17.5	536
5	Development of Polydimethylsiloxane Substrates with Tunable Elastic Modulus to Study Cell Mechanobiology in Muscle and Nerve. PLoS ONE, 2012, 7, e51499.	2.5	433
6	Engineered antifouling microtopographiesÂâ€“Âcorrelating wettability with cell attachment. Biofouling, 2006, 22, 11-21.	2.2	428
7	Engineered antifouling microtopographiesÂâ€“Âeffect of feature size, geometry, and roughness on settlement of zoospores of the green algaUlva. Biofouling, 2007, 23, 55-62.	2.2	413
8	3D Printing PDMS Elastomer in a Hydrophilic Support Bath via Freeform Reversible Embedding. ACS Biomaterials Science and Engineering, 2016, 2, 1781-1786.	5.2	346
9	Biohybrid actuators for robotics: A review of devices actuated by living cells. Science Robotics, 2017, 2, .	17.6	334
10	Generation of Functional Ventricular Heart Muscle from Mouse Ventricular Progenitor Cells. Science, 2009, 326, 426-429.	12.6	202
11	Controlling the contractile strength of engineered cardiac muscle by hierarchal tissue architecture. Biomaterials, 2012, 33, 5732-5741.	11.4	195
12	Antifouling Potential of Lubricious, Micro-engineered, PDMS Elastomers against Zoospores of the Green Fouling AlgaUlva (Enteromorpha). Biofouling, 2004, 20, 53-63.	2.2	188
13	Functional maturation of human pluripotent stem cell derived cardiomyocytes inÂvitro â€“ Correlation between contraction force andÂelectrophysiology. Biomaterials, 2015, 51, 138-150.	11.4	176
14	FRESH 3D Bioprinting a Full-Size Model of the Human Heart. ACS Biomaterials Science and Engineering, 2020, 6, 6453-6459.	5.2	163
15	Biohybrid thin films for measuring contractility in engineered cardiovascular muscle. Biomaterials, 2010, 31, 3613-3621.	11.4	144
16	Cryopreserved cell-laden alginate microgel bioink for 3D bioprinting of living tissues. Materials Today Chemistry, 2019, 12, 61-70.	3.5	140
17	Organ-on-e-chip: Three-dimensional self-rolled biosensor array for electrical interrogations of human electrogenic spheroids. Science Advances, 2019, 5, eaax0729.	10.3	132
18	Emergence of FRESH 3D printing as a platform for advanced tissue biofabrication. APL Bioengineering, 2021, 5, 010904.	6.2	115

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19	Optimizing the structure and contractility of engineered skeletal muscle thin films. Acta Biomaterialia, 2013, 9, 7885-7894.	8.3	98
20	Large volume syringe pump extruder for desktop 3D printers. HardwareX, 2018, 3, 49-61.	2.2	95
21	Biological Soft Robotics. Annual Review of Biomedical Engineering, 2015, 17, 243-265.	12.3	87
22	Nuclear morphology and deformation in engineered cardiac myocytes and tissues. Biomaterials, 2010, 31, 5143-5150.	11.4	86
23	Differentiation of Cardiomyocytes from Human Pluripotent Stem Cells Using Monolayer Culture. Biomarker Insights, 2015, 10s1, BMI.S20050.	2.5	76
24	Understanding the Role of ECM Protein Composition and Geometric Micropatterning for Engineering Human Skeletal Muscle. Annals of Biomedical Engineering, 2016, 44, 2076-2089.	2.5	75
25	In Vitro Expansion of Corneal Endothelial Cells on Biomimetic Substrates. Scientific Reports, 2015, 5, 7955.	3.3	71
26	Optimization of Silicone 3D Printing with Hierarchical Machine Learning. 3D Printing and Additive Manufacturing, 2019, 6, 181-189.	2.9	71
27	Surface-Initiated Assembly of Protein Nanofabrics. Nano Letters, 2010, 10, 2184-2191.	9.1	69
28	Natural Biomaterials for Corneal Tissue Engineering, Repair, and Regeneration. Advanced Healthcare Materials, 2018, 7, e1701434.	7.6	66
29	3D Bioprinting of Engineered Tissue Flaps with Hierarchical Vessel Networks (VesselNet) for Direct Hostâ€Toâ€Implant Perfusion. Advanced Materials, 2021, 33, e2102661.	21.0	65
30	Engineered skeletal muscle tissue for soft robotics: fabrication strategies, current applications, and future challenges. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2014, 6, 178-195.	6.1	64
31	Systematic variation of microtopography, surface chemistry and elastic modulus and the state dependent effect on endothelial cell alignment. Journal of Biomedical Materials Research - Part A, 2008, 86A, 522-534.	4.0	60
32	Hierarchical architecture influences calcium dynamics in engineered cardiac muscle. Experimental Biology and Medicine, 2011, 236, 366-373.	2.4	58
33	Engineering Aligned Skeletal Muscle Tissue Using Decellularized Plant-Derived Scaffolds. ACS Biomaterials Science and Engineering, 2020, 6, 3046-3054.	5.2	58
34	Conformal nanopatterning of extracellular matrix proteins onto topographically complex surfaces. Nature Methods, 2015, 12, 134-136.	19.0	57
35	3D Bioprinting using UNIversal Orthogonal Network (UNION) Bioinks. Advanced Functional Materials, 2021, 31, 2007983.	14.9	55
36	Expert-guided optimization for 3D printing of soft and liquid materials. PLoS ONE, 2018, 13, e0194890.	2.5	53

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37	Dynamic loading of human engineered heart tissue enhances contractile function and drives a desmosome-linked disease phenotype. Science Translational Medicine, 2021, 13, .	12.4	48
38	Hierarchical Machine Learning for High-Fidelity 3D Printed Biopolymers. ACS Biomaterials Science and Engineering, 2020, 6, 7021-7031.	5.2	44
39	Functional Differences in Engineered Myocardium from Embryonic Stem Cell-Derived versus Neonatal Cardiomyocytes. Stem Cell Reports, 2013, 1, 387-396.	4.8	43
40	3D bioprinting from the micrometer to millimeter length scales: Size does matter. Current Opinion in Biomedical Engineering, 2017, 1, 31-37.	3.4	43
41	Scaffold-free tissue engineering of functional corneal stromal tissue. Journal of Tissue Engineering and Regenerative Medicine, 2018, 12, 59-69.	2.7	42
42	3D Printing Silicone Elastomer for Patientâ€Specific Wearable Pulse Oximeter. Advanced Healthcare Materials, 2020, 9, e1901735.	7.6	41
43	Progress in three-dimensional bioprinting. MRS Bulletin, 2017, 42, 557-562.	3.5	36
44	A high performance open-source syringe extruder optimized for extrusion and retraction during FRESH 3D bioprinting. HardwareX, 2021, 9, e00170.	2.2	36
45	Graphene Microelectrode Arrays for Electrical and Optical Measurements of Human Stem Cell-Derived Cardiomyocytes. Cellular and Molecular Bioengineering, 2018, 11, 407-418.	2.1	35
46	Intracellular action potential recordings from cardiomyocytes by ultrafast pulsed laser irradiation of fuzzy graphene microelectrodes. Science Advances, 2021, 7, .	10.3	35
47	Cytoskeletal prestress regulates nuclear shape and stiffness in cardiac myocytes. Experimental Biology and Medicine, 2015, 240, 1543-1554.	2.4	33
48	Engineered Basement Membranes for Regenerating the Corneal Endothelium. Advanced Healthcare Materials, 2016, 5, 2942-2950.	7.6	32
49	Engineered tissue grafts: opportunities and challenges in regenerative medicine. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2012, 4, 207-220.	6.6	30
50	Biohybrid Actuators for Soft Robotics: Challenges in Scaling Up. Actuators, 2020, 9, 96.	2.3	27
51	3D Printing Hydrogel-Based Soft and Biohybrid Actuators: A Mini-Review on Fabrication Techniques, Applications, and Challenges. Frontiers in Robotics and AI, 2021, 8, 673533.	3.2	27
52	Three-dimensional fuzzy graphene ultra-microelectrodes for subcellular electrical recordings. Nano Research, 2020, 13, 1444-1452.	10.4	26
53	Engineering high-density endothelial cell monolayers on soft substrates. Acta Biomaterialia, 2009, 5, 2013-2024.	8.3	24
54	Engineering aligned human cardiac muscle using developmentally inspired fibronectin micropatterns. Scientific Reports, 2021, 11, 11502.	3.3	24

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55	Investigating the Energetics of Bioadhesion on Microengineered Siloxane Elastomers. ACS Symposium Series, 2003, , 196-211.	0.5	22
56	Gain-of-function mutation in ubiquitin ligase KLHL24 causes desmin degradation and dilatation in hiPSC-derived engineered heart tissues. Journal of Clinical Investigation, 2021, 131, .	8.2	22
57	Recapitulating human cardio-pulmonary co-development using simultaneous multilineage differentiation of pluripotent stem cells. ELife, 2022, 11, .	6.0	22
58	FRESH 3D bioprinting a contractile heart tube using human stem cell-derived cardiomyocytes. Biofabrication, 2022, 14, 024106.	7.1	20
59	Shrink Wrapping Cells in a Defined Extracellular Matrix to Modulate the Chemo-Mechanical Microenvironment. Cellular and Molecular Bioengineering, 2014, 7, 355-368.	2.1	19
60	Stretch-dependent changes in molecular conformation in fibronectin nanofibers. Biomaterials Science, 2017, 5, 1629-1639.	5.4	19
61	Extracellular Matrix Structure and Composition in the Early Four-Chambered Embryonic Heart. Cells, 2020, 9, 285.	4.1	19
62	Fibronectin-based nanomechanical biosensors to map 3D surface strains in live cells and tissue. Nature Communications, 2020, 11, 5883.	12.8	18
63	3D printed biaxial stretcher compatible with live fluorescence microscopy. HardwareX, 2020, 7, e00095.	2.2	16
64	Fabrication of freestanding alginate microfibers and microstructures for tissue engineering applications. Biofabrication, 2014, 6, 024104.	7.1	14
65	Modeling neuron growth using isogeometric collocation based phase field method. Scientific Reports, 2022, 12, 8120.	3.3	12
66	Defined Micropatterning of ECM Protein Adhesive Sites on Alginate Microfibers for Engineering Highly Anisotropic Muscle Cell Bundles. Advanced Materials Technologies, 2016, 1, 1600003.	5.8	11
67	Peroxiredoxin-1 Tyr194 phosphorylation regulates LOX-dependent extracellular matrix remodelling in breast cancer. British Journal of Cancer, 2021, 125, 1146-1157.	6.4	11
68	ECM Protein Nanofibers and Nanostructures Engineered Using Surface-initiated Assembly. Journal of Visualized Experiments, 2014, , .	0.3	10
69	Measuring the Poissonâ€™s Ratio of Fibronectin Using Engineered Nanofibers. Scientific Reports, 2017, 7, 13413.	3.3	10
70	Long-Fiber Embedded Hydrogel 3D Printing for Structural Reinforcement. ACS Biomaterials Science and Engineering, 2022, 8, 303-313.	5.2	10
71	Spontaneous helical structure formation in laminin nanofibers. Journal of Materials Chemistry B, 2015, 3, 7993-8000.	5.8	8
72	Patterning on Topography for Generation of Cell Culture Substrates with Independent Nanoscale Control of Chemical and Topographical Extracellular Matrix Cues. Current Protocols in Cell Biology, 2017, 75, 10.23.1-10.23.25.	2.3	8

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73	Nanofiber Biomaterials. , 2013, , 977-1010.		8
74	Continuous fiber extruder for desktop 3D printers toward long fiber embedded hydrogel 3D printing. HardwareX, 2022, 11, e00297.	2.2	5
75	FRESH 3D Bioprinting a Ventricle-like Cardiac Construct Using HumanÂStem Cell-Derived Cardiomyocytes. Methods in Molecular Biology, 2022, , 71-85.	0.9	4
76	Engineering Micrometer and Nanometer Scale Features in Polydimethylsiloxane Elastomers for Controlled Cell Function. Materials Research Society Symposia Proceedings, 2001, 711, 1.	0.1	3
77	Endothelial superoxide dismutase 2 is decreased in sickle cell disease and regulates fibronectin processing. Function, 2022, 3, zqac005.	2.3	3
78	Recent Advances in Cellular and Molecular Bioengineering for Building and Translation of Biological Systems. Cellular and Molecular Bioengineering, 2021, 14, 293-308.	2.1	2
79	Characterization of Chemically and Topographically Modified Siloxane Elastomer for Controlled Cell Growth. Materials Research Society Symposia Proceedings, 2001, 711, 1.	0.1	1
80	Engineering Cardiac Contractility from the Sarcomere to Tissue-Scale. Biophysical Journal, 2009, 96, 372a.	0.5	1
81	3D Bioprinting of Engineered Tissue Flaps with Hierarchical Vessel Networks (VesselNet) for Direct Hostâ€Toâ€Implant Perfusion (Adv. Mater. 42/2021). Advanced Materials, 2021, 33, 2170335.	21.0	1
82	FRESH 3D Bioprinted Collagenâ€based Resistance Vessels and Multiscale Vascular Microfluidics. FASEB Journal, 2022, 36, .	0.5	1
83	Tissue Engineering: Defined Micropatterning of ECM Protein Adhesive Sites on Alginate Microfibers for Engineering Highly Anisotropic Muscle Cell Bundles (Adv. Mater. Technol. 4/2016). Advanced Materials Technologies, 2016, 1, .	5.8	0
84	Pulse Oximeters: 3D Printing Silicone Elastomer for Patientâ€Specific Wearable Pulse Oximeter (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	7.6	0
85	In vivo engraftment into the cornea endothelium using extracellular matrix shrink-wrapped cells. Communications Materials, 2022, 3, .	6.9	0