Jeffrey Borenstein

List of Publications by Year in Descending Order

134 papers	9,519 citations	39 h-index	97 g-index
148 ext. papers	10,384 ext. citations	7 avg, IF	5.96 L-index

#	Paper	IF	Citations
134	Design and construction of three-dimensional physiologically-based vascular branching networks for respiratory assist devices. *Lab on A Chip*, **2021**, 21, 4637-4651	7.2	2
133	A high gas transfer efficiency microfluidic oxygenator for extracorporeal respiratory assist applications in critical care medicine. *Artificial Organs*, **2021**, 45, E247-E264	2.6	4
132	3D Printed Monolithic Device for the Microfluidic Capture, Perfusion, and Analysis of Multicellular Spheroids.. *Frontiers in Medical Technology*, **2021**, 3, 646441	1.9	1
131	A high-throughput microfluidic bilayer co-culture platform to study endothelial-pericyte interactions. *Scientific Reports*, **2021**, 11, 12225	4.9	3
130	Toward Development of a Higher Flow Rate Hemocompatible Biomimetic Microfluidic Blood Oxygenator. *Micromachines*, **2021**, 12,	3.3	1
129	Tunable plant-based materials via in vitro cell culture using a Zinnia elegans model. *Journal of Cleaner Production*, **2021**, 288, 125571	10.3	6
128	High-throughput human primary cell-based airway model for evaluating influenza, coronavirus, or other respiratory viruses in vitro. *Scientific Reports*, **2021**, 11, 14961	4.9	9
127	Modeling Immune Checkpoint Inhibitor Efficacy in Syngeneic Mouse Tumors in an Ex Vivo Immuno-Oncology Dynamic Environment. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	3
126	Microfluidic Model for Evaluation of Immune Checkpoint Inhibitors in Human Tumors. *Advanced Healthcare Materials*, **2019**, 8, e1900289	10.1	14
125	A Microfluidic Device to Enhance Viral Transduction Efficiency During Manufacture of Engineered Cellular Therapies. *Scientific Reports*, **2019**, 9, 15101	4.9	8
124	A high-throughput system to probe and direct biological functions driven by complex hemodynamic environments **2019**, 297-322		
123	Intracochlear drug delivery: Fluorescent tracer evaluation for quantification of distribution in the cochlear partition. *European Journal of Pharmaceutical Sciences*, **2019**, 126, 49-58	5.1	1
122	A fluorescence-based imaging approach to pharmacokinetic analysis of intracochlear drug delivery. *Hearing Research*, **2018**, 368, 41-48	3.9	3
121	Microfluidic Cell Culture Platforms to Capture Hepatic Physiology and Complex Cellular Interactions. *Drug Metabolism and Disposition*, **2018**, 46, 1638-1646	4	21
120	Monolithic, 3D-Printed Microfluidic Platform for Recapitulation of Dynamic Tumor Microenvironments. *Journal of Microelectromechanical Systems*, **2018**, 27, 1009-1022	2.5	22
119	A multiplexed microfluidic system for evaluation of dynamics of immune-tumor interactions. *Lab on A Chip*, **2018**, 18, 1844-1858	7.2	51
118	A microfluidic culture model of the human reproductive tract and 28-day menstrual cycle. *Nature Communications*, **2017**, 8, 14584	17.4	231

117	Mixed Reversible Covalent Crosslink Kinetics Enable Precise, Hierarchical Mechanical Tuning of Hydrogel Networks. *Advanced Materials*, **2017**, 29, 1605947	24	83
116	Organs-on-Chips: How Microsystems Technology Can Transform the Drug Development Process. *IEEE Pulse*, **2016**, 7, 22-6	0.7	6
115	Microfabricated reciprocating micropump for intracochlear drug delivery with integrated drug/fluid storage and electronically controlled dosing. *Lab on A Chip*, **2016**, 16, 829-46	7.2	39
114	Glucocorticoid Clearance and Metabolite Profiling in an In Vitro Human Airway Epithelium Lung Model. *Drug Metabolism and Disposition*, **2016**, 44, 220-6	4	5
113	A portable and reconfigurable multi-organ platform for drug development with onboard microfluidic flow control. *Lab on A Chip*, **2016**, 17, 134-144	7.2	70
112	Development of a biomimetic microfluidic oxygen transfer device. *Lab on A Chip*, **2016**, 16, 3227-34	7.2	22
111	A bilayer small diameter vascular model for evaluation of drug induced vascular injury. *Biomicrofluidics*, **2016**, 10, 054116	3.2	2
110	Microfabricated infuse-withdraw micropump component for an integrated inner-ear drug-delivery platform. *Biomedical Microdevices*, **2015**, 17, 37	3.7	18
109	Comprehensive evaluation of poly(I:C) induced inflammatory response in an airway epithelial model. *Physiological Reports*, **2015**, 3, e12334	2.6	28
108	The role of intracochlear drug delivery devices in the management of inner ear disease. *Expert Opinion on Drug Delivery*, **2015**, 12, 465-79	8	21
107	A microfluidic reciprocating intracochlear drug delivery system with reservoir and active dose control. *Lab on A Chip*, **2014**, 14, 710-21	7.2	24
106	A microphysiological system model of therapy for liver micrometastases. *Experimental Biology and Medicine*, **2014**, 239, 1170-9	3.7	45
105	Approaches to in vitro tissue regeneration with application for human disease modeling and drug development. *Drug Discovery Today*, **2014**, 19, 754-62	8.8	33
104	Microfabrication Techniques in Scaffold Development **2014**, 103-142		2
103	Combined surface micropatterning and reactive chemistry maximizes tissue adhesion with minimal inflammation. *Advanced Healthcare Materials*, **2014**, 3, 565-71	10.1	15
102	Topographically-patterned porous membranes in a microfluidic device as an in vitro model of renal reabsorptive barriers. *Lab on A Chip*, **2013**, 13, 2311-9	7.2	42
101	Fully biodegradable airway stents using amino alcohol-based poly(ester amide) elastomers. *Advanced Healthcare Materials*, **2013**, 2, 1329-36	10.1	15
100	Transport Models for Three-Dimensional Cell Culture Systems **2013**, 137-172		

99	All-human microphysical model of metastasis therapy. *Stem Cell Research and Therapy*, **2013**, 4 Suppl 1, S11	8.3	23
98	Polybetaine modification of PDMS microfluidic devices to resist thrombus formation in whole blood. *Lab on A Chip*, **2013**, 13, 1963-8	7.2	33
97	. *IEEE Transactions on Nanobioscience*, **2012**, 11, 1-2	3.4	2
96	Microsystems technologies for drug delivery to the inner ear. *Advanced Drug Delivery Reviews*, **2012** , 64, 1650-60	18.5	39
95	Performance and scaling effects in a multilayer microfluidic extracorporeal lung oxygenation device. *Lab on A Chip*, **2012**, 12, 1686-95	7.2	47
94	Evaluation of tissue interactions with mechanical elements of a transscleral drug delivery device. *Pharmaceutics*, **2012**, 4, 212-29	6.4	2
93	Fabrication of a hybrid microfluidic system incorporating both lithographically patterned microchannels and a 3D fiber-formed microfluidic network. *Advanced Healthcare Materials*, **2012**, 1, 164-7	10.1	27
92	Hybrid Microfluidic Systems: Fabrication of a Hybrid Microfluidic System Incorporating both Lithographically Patterned Microchannels and a 3D Fiber-Formed Microfluidic Network (Adv. Healthcare Mater. 2/2012). *Advanced Healthcare Materials*, **2012**, 1, 134-134	10.1	
91	A nanofiber membrane maintains the quiescent phenotype of hepatic stellate cells. *Digestive Diseases and Sciences*, **2012**, 57, 1152-62	4	4
90	Gecko-Inspired Tape-Based Adhesives **2012**, 195-223		
89	Engineering tissue with BioMEMS. *IEEE Pulse*, **2011**, 2, 28-34	0.7	10
88	Kinetics of reciprocating drug delivery to the inner ear. *Journal of Controlled Release*, **2011**, 152, 270-7	11.7	21
87	Microfluidic cell culture models for tissue engineering. *Current Opinion in Biotechnology*, **2011**, 22, 681-9	11.4	121
86	A microfluidic respiratory assist device with high gas permeance for artificial lung applications. *Biomedical Microdevices*, **2011**, 13, 315-23	3.7	65
85	Intracochlear drug delivery systems. *Expert Opinion on Drug Delivery*, **2011**, 8, 1161-74	8	33
84	Transport and shear in a microfluidic membrane bilayer device for cell culture. *Biomicrofluidics*, **2011**, 5, 22213	3.2	21
83	Transport Model for Microfluidic Device for Cell Culture and Tissue Development. *Materials Research Society Symposia Proceedings*, **2011**, 1299, 1		
82	Biodegradable Microfluidic Scaffolds with Tunable Degradation Properties from Amino Alcohol-based Poly(ester amide) Elastomers. *Materials Research Society Symposia Proceedings*, **2011** , 1299, 1		

81	Membrane-integrated microfluidic device for high-resolution live cell imaging. *Biomicrofluidics*, **2011**, 5, 46501-465016	3.2	21
80	Tissue Equivalents Based on Cell-Seeded Biodegradable Microfluidic Constructs. *Materials*, **2010**, 3, 1833-1844	3.5	12
79	Drug delivery for treatment of inner ear disease: current state of knowledge. *Ear and Hearing*, **2010**, 31, 156-65	3.4	118
78	Biodegradable microfluidic scaffolds for tissue engineering from amino alcohol-based poly(ester amide) elastomers. *Organogenesis*, **2010**, 6, 212-6	1.7	41
77	Biomaterials-based microfluidics for engineered tissue constructs. *Soft Matter*, **2010**, 6, 4999	3.6	38
76	Liver-assist device with a microfluidics-based vascular bed in an animal model. *Annals of Surgery*, **2010**, 252, 351-7	7.8	25
75	Functional endothelialized microvascular networks with circular cross-sections in a tissue culture substrate. *Biomedical Microdevices*, **2010**, 12, 71-9	3.7	96
74	Branched vascular network architecture: a new approach to lung assist device technology. *Journal of Thoracic and Cardiovascular Surgery*, **2010**, 140, 990-5	1.5	34
73	Nanofabricated collagen-inspired synthetic elastomers for primary rat hepatocyte culture. *Tissue Engineering - Part A*, **2009**, 15, 1321-9	3.9	22
72	Elastic Averaging for Assembly of Three-Dimensional Constructs From Elastomeric Micromolded Layers. *Journal of Microelectromechanical Systems*, **2009**, 18, 531-538	2.5	4
71	Development of a microfluidics-based intracochlear drug delivery device. *Audiology and Neuro-Otology*, **2009**, 14, 411-22	2.2	36
70	Mastoid cavity dimensions and shape: method of measurement and virtual fitting of implantable devices. *Audiology and Neuro-Otology*, **2009**, 14, 308-14	2.2	14
69	In vitro and in vivo degradation of poly(1,3-diamino-2-hydroxypropane-co-polyol sebacate) elastomers. *Journal of Biomedical Materials Research - Part A*, **2009**, 91, 1077-88	5.4	28
68	MRI contrast using solid-state, B1-distorting, microelectromechanical systems (MEMS) microresonant devices (MRDs). *Magnetic Resonance in Medicine*, **2009**, 61, 860-6	4.4	4
67	Engineering substrate topography at the micro- and nanoscale to control cell function. *Angewandte Chemie - International Edition*, **2009**, 48, 5406-15	16.4	991
66	Local drug delivery with a self-contained, programmable, microfluidic system. *Biomedical Microdevices*, **2009**, 11, 571-8	3.7	39
65	Biocompatibility of biodegradable semiconducting melanin films for nerve tissue engineering. *Biomaterials*, **2009**, 30, 3050-7	15.6	278
64	Fabrication Methods and Performance of Low-Permeability Microfluidic Components for a Miniaturized Wearable Drug Delivery System. *Journal of Microelectromechanical Systems*, **2009**, 18, 501-510	2.5	27

63	Rapid generation of spatially and temporally controllable long-range concentration gradients in a microfluidic device. *Lab on A Chip*, **2009**, 9, 761-7	7.2	77
62	Pulmonary tissue engineering using dual-compartment polymer scaffolds with integrated vascular tree. *International Journal of Artificial Organs*, **2009**, 32, 701-10	1.9	24
61	Accordion-like honeycombs for tissue engineering of cardiac anisotropy. *Nature Materials*, **2008**, 7, 1003-10	27	672
60	BioMEMS Technologies for Regenerative Medicine. *Materials Research Society Symposia Proceedings* , **2008**, 1139, 1		3
59	A micromachined surface stress sensor with electronic readout. *Review of Scientific Instruments*, **2008**, 79, 015106	1.7	1
58	A biodegradable and biocompatible gecko-inspired tissue adhesive. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 2307-12	11.5	417
57	Amino alcohol-based degradable poly(ester amide) elastomers. *Biomaterials*, **2008**, 29, 2315-25	15.6	134
56	In vitro analysis of a hepatic device with intrinsic microvascular-based channels. *Biomedical Microdevices*, **2008**, 10, 795-805	3.7	138
55	Enhancement of In Vitro Capillary Tube Formation by Substrate Nanotopography. *Advanced Materials*, **2008**, 20, 99-103	24	151
54	Inner ear drug delivery for auditory applications. *Advanced Drug Delivery Reviews*, **2008**, 60, 1583-99	18.5	145
53	Microfabrication Techniques in Scaffold Development **2008**, 87-119		2
52	Controlling size, shape and homogeneity of embryoid bodies using poly(ethylene glycol) microwells. *Lab on A Chip*, **2007**, 7, 786-94	7.2	323
51	Silk Fibroin Microfluidic Devices. *Advanced Materials*, **2007**, 19, 2847-2850	24	158
50	The effect of actin disrupting agents on contact guidance of human embryonic stem cells. *Biomaterials*, **2007**, 28, 4068-77	15.6	190
49	Neutron irradiation-induced dimensional changes in MEMS glass substrates. *Nuclear Instruments & Methods in Physics Research B*, **2007**, 264, 66-72	1.2	6
48	Micro- and Nanofabricated Scaffolds **2007**, 341-358		4
47	Microfabrication of three-dimensional engineered scaffolds. *Tissue Engineering*, **2007**, 13, 1837-44		150
46	Micromachined silicon plates for sensing molecular interactions. *Applied Physics Letters*, **2006**, 89, 173123	3.4	19

45	Interplay of biomaterials and micro-scale technologies for advancing biomedical applications. *Journal of Biomaterials Science, Polymer Edition*, **2006**, 17, 1221-40	3.5	35
44	Microscale technologies for tissue engineering and biology. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 2480-7	11.5	1304
43	Microfabrication of poly (glycerol-sebacate) for contact guidance applications. *Biomaterials*, **2006**, 27, 2558-65	15.6	193
42	Endothelialized Networks with a Vascular Geometry in Microfabricated Poly(dimethyl siloxane), Biomedical Microdevices 6:4, 269278, 2004. *Biomedical Microdevices*, **2006**, 8, 271-271	3.7	4
41	Tissue Engineering: Multiscaled Representation of Tissue Architecture and Function **2006**, 737-761		
40	Three-Dimensional Microfluidic Tissue-Engineering Scaffolds Using a Flexible Biodegradable Polymer. *Advanced Materials*, **2005**, 18, 165-169	24	236
39	Cell docking inside microwells within reversibly sealed microfluidic channels for fabricating multiphenotype cell arrays. *Lab on A Chip*, **2005**, 5, 1380-6	7.2	200
38	Endothelialized microvasculature based on a biodegradable elastomer. *Tissue Engineering*, **2005**, 11, 302-9		280
37	Fluid flow analysis in microfluidic devices by spectral-domain optical Doppler tomography **2005**, 5692, 174		
36	Inner ear drug delivery via a reciprocating perfusion system in the guinea pig. *Journal of Controlled Release*, **2005**, 110, 1-19	11.7	66
35	Biodegradable Microfluidic Scaffolds for Vascular Tissue Engineering. *Materials Research Society Symposia Proceedings*, **2004**, 845, 35		1
34	Endothelialized networks with a vascular geometry in microfabricated poly(dimethyl siloxane). *Biomedical Microdevices*, **2004**, 6, 269-78	3.7	179
33	Biodegradable Microfluidics. *Advanced Materials*, **2004**, 16, 2007-2012	24	145
32	The generation of functionally differentiated, three-dimensional hepatic tissue from two-dimensional sheets of progenitor small hepatocytes and nonparenchymal cells. *Transplantation*, **2004**, 77, 1783-9	1.8	24
31	Microfabrication Technology for Vascularized Tissue Engineering. *Biomedical Microdevices*, **2002**, 4, 167-175	3.7	273
30	Defect-Induced Shifts in the Elastic Constants of Silicon. *Materials Research Society Symposia Proceedings*, **2002**, 741, 5261		
29	Biodegradable Polymer Microfluidics for Tissue Engineering Microvasculature. *Materials Research Society Symposia Proceedings*, **2002**, 729, 141		9
28	Neutron Irradiation-Induced Dimensional Changes in MEMS Glass Substrates. *Materials Research Society Symposia Proceedings*, **2001**, 687, 1		

27	Capillary Formation In Microfabricated Polymer Scaffolds. *Materials Research Society Symposia Proceedings*, **2001**, 711, 1		
26	Microfluidics for Tissue Engineering Microvasculature: Endothelial Cell Culture **2001**, 247-249		5
25	Silicon micromachining to tissue engineer branched vascular channels for liver fabrication. *Tissue Engineering*, **2000**, 6, 105-17		277
24	Characterization of bending in single crystal Si beams and resonators. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1999**, 17, 1336		5
23	Etch Selectivity of Novel Epitaxial Layers for Bulk Micromachining. *Materials Research Society Symposia Proceedings*, **1998**, 546, 69		2
22	Yield enhancement in micromechanical sensor fabrication using statistical process control **1997**, 3223, 276		2
21	Structural Characterization of P++ Si:B Layers for Bulk Micromachining. *Materials Research Society Symposia Proceedings*, **1996**, 444, 197		3
20	Influence of ion-implanted titanium on the performance of edge-defined, film-fed grown silicon solar cells. *Applied Physics Letters*, **1993**, 62, 1615-1616	3.4	11
19	Kinetic model for hydrogen reactions in boron-doped silicon. *Journal of Applied Physics*, **1993**, 73, 2751-2754	2.5	34
18	Effect of Multiple Trapping on Hydrogen Diffusion in Silicon. *Materials Science Forum*, **1992**, 83-87, 51-56	0.4	1
17	Exponential diffusion profile for impurity trapping at an unsaturable trap. *Physical Review B*, **1990**, 42, 11881-11883	3.3	14
16	Deep levels in edge-defined, film-fed grown silicon solar cells. *Applied Physics Letters*, **1990**, 56, 2222-2224	3.4	3
15	Hydrogen Diffusion and Complex Formation in Silicon. *Materials Research Society Symposia Proceedings*, **1989**, 163, 633		6
14	Stage-specific behavioral, cognitive, and in vivo changes in community residing subjects with age-associated memory impairment and primary degenerative dementia of the Alzheimer type. *Drug Development Research*, **1988**, 15, 101-114	5.1	108
13	Influence of Dopant type and Concentration on Hydrogen Diffusion in Silicon. *Materials Research Society Symposia Proceedings*, **1988**, 138, 209		5
12	Depletion of interstitial oxygen in silicon and the thermal donor model. *Journal of Applied Physics*, **1987**, 62, 1287-1289	2.5	4
11	Unified model for the thermal donor energy spectra In silicon and germanium. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1986**, 115, 55-58	2.3	5
10	On the kinetics of thermal donor formation in silicon. *Journal of Materials Research*, **1986**, 1, 527-536	2.5	20

9	Perturbation model for the thermal-donor energy spectrum in silicon. *Journal of Physics C: Solid State Physics*, **1986**, 19, 2893-2906		11
8	The new shallow thermal donor series in silicon. *Journal of Physics C: Solid State Physics*, **1986**, 19, L579-L584		12
7	. *Journal of Physics C: Solid State Physics*, **1986**, 19, L627-L630		2
6	Quenched-in defects in flashlamp-annealed silicon. *Applied Physics Letters*, **1986**, 49, 199-200	3.4	23
5	Age-associated memory impairment: The clinical syndrome. *Developmental Neuropsychology*, **1986**, 2, 401-412	1.8	25
4	Longitudinal course of normal aging and progressive dementia of the Alzheimer's type: a prospective study of 106 subjects over a 3.6 year mean interval. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, **1986**, 10, 571-8	5.5	50
3	A Unified Treatment of The Thermal Donor Hierarchies in Silicon and Germanium*. *Materials Research Society Symposia Proceedings*, **1985**, 59, 159		
2	Formation Kinetics of Thermal Donors in Silicon*. *Materials Research Society Symposia Proceedings*, **1985**, 59, 173		1
1	Semi-Empirical Tight Binding Calculations for the Energy Bands of the Diamond and Zincblende Type Semiconductors. *Physica Status Solidi (B): Basic Research*, **1984**, 122, 661-667	1.3	14