

# Jeffrey Borenstein

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/4541591/jeffrey-borenstein-publications-by-citations.pdf>

**Version:** 2024-04-28

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Microscale technologies for tissue engineering and biology. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2006</b> , 103, 2480-7	11.5	1304
133	Engineering substrate topography at the micro- and nanoscale to control cell function. <i>Angewandte Chemie - International Edition</i> , <b>2009</b> , 48, 5406-15	16.4	991
132	Accordion-like honeycombs for tissue engineering of cardiac anisotropy. <i>Nature Materials</i> , <b>2008</b> , 7, 1003-10	17.0	672
131	A biodegradable and biocompatible gecko-inspired tissue adhesive. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2008</b> , 105, 2307-12	11.5	417
130	Controlling size, shape and homogeneity of embryoid bodies using poly(ethylene glycol) microwells. <i>Lab on A Chip</i> , <b>2007</b> , 7, 786-94	7.2	323
129	Endothelialized microvasculature based on a biodegradable elastomer. <i>Tissue Engineering</i> , <b>2005</b> , 11, 302-9		280
128	Biocompatibility of biodegradable semiconducting melanin films for nerve tissue engineering. <i>Biomaterials</i> , <b>2009</b> , 30, 3050-7	15.6	278
127	Silicon micromachining to tissue engineer branched vascular channels for liver fabrication. <i>Tissue Engineering</i> , <b>2000</b> , 6, 105-17		277
126	Microfabrication Technology for Vascularized Tissue Engineering. <i>Biomedical Microdevices</i> , <b>2002</b> , 4, 167-175	17.5	273
125	Three-Dimensional Microfluidic Tissue-Engineering Scaffolds Using a Flexible Biodegradable Polymer. <i>Advanced Materials</i> , <b>2005</b> , 18, 165-169	24	236
124	A microfluidic culture model of the human reproductive tract and 28-day menstrual cycle. <i>Nature Communications</i> , <b>2017</b> , 8, 14584	17.4	231
123	Cell docking inside microwells within reversibly sealed microfluidic channels for fabricating multiphenotype cell arrays. <i>Lab on A Chip</i> , <b>2005</b> , 5, 1380-6	7.2	200
122	Microfabrication of poly (glycerol-sebacate) for contact guidance applications. <i>Biomaterials</i> , <b>2006</b> , 27, 2558-65	15.6	193
121	The effect of actin disrupting agents on contact guidance of human embryonic stem cells. <i>Biomaterials</i> , <b>2007</b> , 28, 4068-77	15.6	190
120	Endothelialized networks with a vascular geometry in microfabricated poly(dimethyl siloxane). <i>Biomedical Microdevices</i> , <b>2004</b> , 6, 269-78	3.7	179
119	Silk Fibroin Microfluidic Devices. <i>Advanced Materials</i> , <b>2007</b> , 19, 2847-2850	24	158
118	Enhancement of In Vitro Capillary Tube Formation by Substrate Nanotopography. <i>Advanced Materials</i> , <b>2008</b> , 20, 99-103	24	151

117	Microfabrication of three-dimensional engineered scaffolds. <i>Tissue Engineering</i> , <b>2007</b> , 13, 1837-44		150
116	Inner ear drug delivery for auditory applications. <i>Advanced Drug Delivery Reviews</i> , <b>2008</b> , 60, 1583-99	18.5	145
115	Biodegradable Microfluidics. <i>Advanced Materials</i> , <b>2004</b> , 16, 2007-2012	24	145
114	In vitro analysis of a hepatic device with intrinsic microvascular-based channels. <i>Biomedical Microdevices</i> , <b>2008</b> , 10, 795-805	3.7	138
113	Amino alcohol-based degradable poly(ester amide) elastomers. <i>Biomaterials</i> , <b>2008</b> , 29, 2315-25	15.6	134
112	Microfluidic cell culture models for tissue engineering. <i>Current Opinion in Biotechnology</i> , <b>2011</b> , 22, 681-9	11.4	121
111	Drug delivery for treatment of inner ear disease: current state of knowledge. <i>Ear and Hearing</i> , <b>2010</b> , 31, 156-65	3.4	118
110	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. <i>Drug Development Research</i> , <b>1988</b> , 15, 101-114	5.1	108
109	Functional endothelialized microvascular networks with circular cross-sections in a tissue culture substrate. <i>Biomedical Microdevices</i> , <b>2010</b> , 12, 71-9	3.7	96
108	Mixed Reversible Covalent Crosslink Kinetics Enable Precise, Hierarchical Mechanical Tuning of Hydrogel Networks. <i>Advanced Materials</i> , <b>2017</b> , 29, 1605947	24	83
107	Rapid generation of spatially and temporally controllable long-range concentration gradients in a microfluidic device. <i>Lab on A Chip</i> , <b>2009</b> , 9, 761-7	7.2	77
106	A portable and reconfigurable multi-organ platform for drug development with onboard microfluidic flow control. <i>Lab on A Chip</i> , <b>2016</b> , 17, 134-144	7.2	70
105	Inner ear drug delivery via a reciprocating perfusion system in the guinea pig. <i>Journal of Controlled Release</i> , <b>2005</b> , 110, 1-19	11.7	66
104	A microfluidic respiratory assist device with high gas permeance for artificial lung applications. <i>Biomedical Microdevices</i> , <b>2011</b> , 13, 315-23	3.7	65
103	A multiplexed microfluidic system for evaluation of dynamics of immune-tumor interactions. <i>Lab on A Chip</i> , <b>2018</b> , 18, 1844-1858	7.2	51
102	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. <i>Progress in Neuro-Psychopharmacology and Biological Psychiatry</i> , <b>1986</b> , 10, 571-8	5.5	50
101	Performance and scaling effects in a multilayer microfluidic extracorporeal lung oxygenation device. <i>Lab on A Chip</i> , <b>2012</b> , 12, 1686-95	7.2	47
100	A microphysiological system model of therapy for liver micrometastases. <i>Experimental Biology and Medicine</i> , <b>2014</b> , 239, 1170-9	3.7	45

99	Topographically-patterned porous membranes in a microfluidic device as an in vitro model of renal reabsorptive barriers. <i>Lab on A Chip</i> , <b>2013</b> , 13, 2311-9	7.2	42
98	Biodegradable microfluidic scaffolds for tissue engineering from amino alcohol-based poly(ester amide) elastomers. <i>Organogenesis</i> , <b>2010</b> , 6, 212-6	1.7	41
97	Microfabricated reciprocating micropump for intracochlear drug delivery with integrated drug/fluid storage and electronically controlled dosing. <i>Lab on A Chip</i> , <b>2016</b> , 16, 829-46	7.2	39
96	Microsystems technologies for drug delivery to the inner ear. <i>Advanced Drug Delivery Reviews</i> , <b>2012</b> , 64, 1650-60	18.5	39
95	Local drug delivery with a self-contained, programmable, microfluidic system. <i>Biomedical Microdevices</i> , <b>2009</b> , 11, 571-8	3.7	39
94	Biomaterials-based microfluidics for engineered tissue constructs. <i>Soft Matter</i> , <b>2010</b> , 6, 4999	3.6	38
93	Development of a microfluidics-based intracochlear drug delivery device. <i>Audiology and Neuro-Otology</i> , <b>2009</b> , 14, 411-22	2.2	36
92	Interplay of biomaterials and micro-scale technologies for advancing biomedical applications. <i>Journal of Biomaterials Science, Polymer Edition</i> , <b>2006</b> , 17, 1221-40	3.5	35
91	Branched vascular network architecture: a new approach to lung assist device technology. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2010</b> , 140, 990-5	1.5	34
90	Kinetic model for hydrogen reactions in boron-doped silicon. <i>Journal of Applied Physics</i> , <b>1993</b> , 73, 2751-2754	2.5	34
89	Approaches to in vitro tissue regeneration with application for human disease modeling and drug development. <i>Drug Discovery Today</i> , <b>2014</b> , 19, 754-62	8.8	33
88	Polybetaine modification of PDMS microfluidic devices to resist thrombus formation in whole blood. <i>Lab on A Chip</i> , <b>2013</b> , 13, 1963-8	7.2	33
87	Intracochlear drug delivery systems. <i>Expert Opinion on Drug Delivery</i> , <b>2011</b> , 8, 1161-74	8	33
86	Comprehensive evaluation of poly(I:C) induced inflammatory response in an airway epithelial model. <i>Physiological Reports</i> , <b>2015</b> , 3, e12334	2.6	28
85	In vitro and in vivo degradation of poly(1,3-diamino-2-hydroxypropane-co-polyol sebacate) elastomers. <i>Journal of Biomedical Materials Research - Part A</i> , <b>2009</b> , 91, 1077-88	5.4	28
84	Fabrication of a hybrid microfluidic system incorporating both lithographically patterned microchannels and a 3D fiber-formed microfluidic network. <i>Advanced Healthcare Materials</i> , <b>2012</b> , 1, 164-7	10.1	27
83	Fabrication Methods and Performance of Low-Permeability Microfluidic Components for a Miniaturized Wearable Drug Delivery System. <i>Journal of Microelectromechanical Systems</i> , <b>2009</b> , 18, 501-510	2.5	27
82	Liver-assist device with a microfluidics-based vascular bed in an animal model. <i>Annals of Surgery</i> , <b>2010</b> , 252, 351-7	7.8	25

81	Age-associated memory impairment: The clinical syndrome. <i>Developmental Neuropsychology</i> , <b>1986</b> , 2, 401-412	1.8	25
80	A microfluidic reciprocating intracochlear drug delivery system with reservoir and active dose control. <i>Lab on A Chip</i> , <b>2014</b> , 14, 710-21	7.2	24
79	Pulmonary tissue engineering using dual-compartment polymer scaffolds with integrated vascular tree. <i>International Journal of Artificial Organs</i> , <b>2009</b> , 32, 701-10	1.9	24
78	The generation of functionally differentiated, three-dimensional hepatic tissue from two-dimensional sheets of progenitor small hepatocytes and nonparenchymal cells. <i>Transplantation</i> , <b>2004</b> , 77, 1783-9	1.8	24
77	All-human microphysical model of metastasis therapy. <i>Stem Cell Research and Therapy</i> , <b>2013</b> , 4 Suppl 1, S11	8.3	23
76	Quenched-in defects in flashlamp-annealed silicon. <i>Applied Physics Letters</i> , <b>1986</b> , 49, 199-200	3.4	23
75	Nanofabricated collagen-inspired synthetic elastomers for primary rat hepatocyte culture. <i>Tissue Engineering - Part A</i> , <b>2009</b> , 15, 1321-9	3.9	22
74	Development of a biomimetic microfluidic oxygen transfer device. <i>Lab on A Chip</i> , <b>2016</b> , 16, 3227-34	7.2	22
73	Monolithic, 3D-Printed Microfluidic Platform for Recapitulation of Dynamic Tumor Microenvironments. <i>Journal of Microelectromechanical Systems</i> , <b>2018</b> , 27, 1009-1022	2.5	22
72	The role of intracochlear drug delivery devices in the management of inner ear disease. <i>Expert Opinion on Drug Delivery</i> , <b>2015</b> , 12, 465-79	8	21
71	Microfluidic Cell Culture Platforms to Capture Hepatic Physiology and Complex Cellular Interactions. <i>Drug Metabolism and Disposition</i> , <b>2018</b> , 46, 1638-1646	4	21
70	Kinetics of reciprocating drug delivery to the inner ear. <i>Journal of Controlled Release</i> , <b>2011</b> , 152, 270-7	11.7	21
69	Transport and shear in a microfluidic membrane bilayer device for cell culture. <i>Biomicrofluidics</i> , <b>2011</b> , 5, 22213	3.2	21
68	Membrane-integrated microfluidic device for high-resolution live cell imaging. <i>Biomicrofluidics</i> , <b>2011</b> , 5, 46501-465016	3.2	21
67	On the kinetics of thermal donor formation in silicon. <i>Journal of Materials Research</i> , <b>1986</b> , 1, 527-536	2.5	20
66	Micromachined silicon plates for sensing molecular interactions. <i>Applied Physics Letters</i> , <b>2006</b> , 89, 173123	3.4	19
65	Microfabricated infuse-withdraw micropump component for an integrated inner-ear drug-delivery platform. <i>Biomedical Microdevices</i> , <b>2015</b> , 17, 37	3.7	18
64	Fully biodegradable airway stents using amino alcohol-based poly(ester amide) elastomers. <i>Advanced Healthcare Materials</i> , <b>2013</b> , 2, 1329-36	10.1	15

63	Combined surface micropatterning and reactive chemistry maximizes tissue adhesion with minimal inflammation. <i>Advanced Healthcare Materials</i> , <b>2014</b> , 3, 565-71	10.1	15
62	Microfluidic Model for Evaluation of Immune Checkpoint Inhibitors in Human Tumors. <i>Advanced Healthcare Materials</i> , <b>2019</b> , 8, e1900289	10.1	14
61	Mastoid cavity dimensions and shape: method of measurement and virtual fitting of implantable devices. <i>Audiology and Neuro-Otology</i> , <b>2009</b> , 14, 308-14	2.2	14
60	Exponential diffusion profile for impurity trapping at an unsaturable trap. <i>Physical Review B</i> , <b>1990</b> , 42, 11881-11883	3.3	14
59	Semi-Empirical Tight Binding Calculations for the Energy Bands of the Diamond and Zincblende Type Semiconductors. <i>Physica Status Solidi (B): Basic Research</i> , <b>1984</b> , 122, 661-667	1.3	14
58	Tissue Equivalents Based on Cell-Seeded Biodegradable Microfluidic Constructs. <i>Materials</i> , <b>2010</b> , 3, 1833-1844	3.5	12
57	The new shallow thermal donor series in silicon. <i>Journal of Physics C: Solid State Physics</i> , <b>1986</b> , 19, L579-L584		12
56	Influence of ion-implanted titanium on the performance of edge-defined, film-fed grown silicon solar cells. <i>Applied Physics Letters</i> , <b>1993</b> , 62, 1615-1616	3.4	11
55	Perturbation model for the thermal-donor energy spectrum in silicon. <i>Journal of Physics C: Solid State Physics</i> , <b>1986</b> , 19, 2893-2906		11
54	Engineering tissue with BioMEMS. <i>IEEE Pulse</i> , <b>2011</b> , 2, 28-34	0.7	10
53	Biodegradable Polymer Microfluidics for Tissue Engineering Microvasculature. <i>Materials Research Society Symposia Proceedings</i> , <b>2002</b> , 729, 141		9
52	High-throughput human primary cell-based airway model for evaluating influenza, coronavirus, or other respiratory viruses in vitro. <i>Scientific Reports</i> , <b>2021</b> , 11, 14961	4.9	9
51	A Microfluidic Device to Enhance Viral Transduction Efficiency During Manufacture of Engineered Cellular Therapies. <i>Scientific Reports</i> , <b>2019</b> , 9, 15101	4.9	8
50	Organs-on-Chips: How Microsystems Technology Can Transform the Drug Development Process. <i>IEEE Pulse</i> , <b>2016</b> , 7, 22-6	0.7	6
49	Neutron irradiation-induced dimensional changes in MEMS glass substrates. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , <b>2007</b> , 264, 66-72	1.2	6
48	Hydrogen Diffusion and Complex Formation in Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1989</b> , 163, 633		6
47	Tunable plant-based materials via in vitro cell culture using a <i>Zinnia elegans</i> model. <i>Journal of Cleaner Production</i> , <b>2021</b> , 288, 125571	10.3	6
46	Glucocorticoid Clearance and Metabolite Profiling in an In Vitro Human Airway Epithelium Lung Model. <i>Drug Metabolism and Disposition</i> , <b>2016</b> , 44, 220-6	4	5

45	Characterization of bending in single crystal Si beams and resonators. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , <b>1999</b> , 17, 1336		5
44	Unified model for the thermal donor energy spectra In silicon and germanium. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1986</b> , 115, 55-58	2.3	5
43	Influence of Dopant type and Concentration on Hydrogen Diffusion in Silicon. <i>Materials Research Society Symposia Proceedings</i> , <b>1988</b> , 138, 209		5
42	Microfluidics for Tissue Engineering Microvasculature: Endothelial Cell Culture <b>2001</b> , 247-249		5
41	A nanofiber membrane maintains the quiescent phenotype of hepatic stellate cells. <i>Digestive Diseases and Sciences</i> , <b>2012</b> , 57, 1152-62	4	4
40	Elastic Averaging for Assembly of Three-Dimensional Constructs From Elastomeric Micromolded Layers. <i>Journal of Microelectromechanical Systems</i> , <b>2009</b> , 18, 531-538	2.5	4
39	MRI contrast using solid-state, B1-distorting, microelectromechanical systems (MEMS) microresonant devices (MRDs). <i>Magnetic Resonance in Medicine</i> , <b>2009</b> , 61, 860-6	4.4	4
38	Micro- and Nanofabricated Scaffolds <b>2007</b> , 341-358		4
37	Endothelialized Networks with a Vascular Geometry in Microfabricated Poly(dimethyl siloxane), Biomedical Microdevices 6:4, 269-278, 2004. <i>Biomedical Microdevices</i> , <b>2006</b> , 8, 271-271	3.7	4
36	Depletion of interstitial oxygen in silicon and the thermal donor model. <i>Journal of Applied Physics</i> , <b>1987</b> , 62, 1287-1289	2.5	4
35	A high gas transfer efficiency microfluidic oxygenator for extracorporeal respiratory assist applications in critical care medicine. <i>Artificial Organs</i> , <b>2021</b> , 45, E247-E264	2.6	4
34	A fluorescence-based imaging approach to pharmacokinetic analysis of intracochlear drug delivery. <i>Hearing Research</i> , <b>2018</b> , 368, 41-48	3.9	3
33	BioMEMS Technologies for Regenerative Medicine. <i>Materials Research Society Symposia Proceedings</i> , <b>2008</b> , 1139, 1		3
32	Structural Characterization of P++ Si:B Layers for Bulk Micromachining. <i>Materials Research Society Symposia Proceedings</i> , <b>1996</b> , 444, 197		3
31	Deep levels in edge-defined, film-fed grown silicon solar cells. <i>Applied Physics Letters</i> , <b>1990</b> , 56, 2222-2224	3.4	3
30	Modeling Immune Checkpoint Inhibitor Efficacy in Syngeneic Mouse Tumors in an Ex Vivo Immuno-Oncology Dynamic Environment. <i>International Journal of Molecular Sciences</i> , <b>2020</b> , 21,	6.3	3
29	A high-throughput microfluidic bilayer co-culture platform to study endothelial-pericyte interactions. <i>Scientific Reports</i> , <b>2021</b> , 11, 12225	4.9	3
28	Microfabrication Techniques in Scaffold Development <b>2014</b> , 103-142		2

27	. <i>IEEE Transactions on Nanobioscience</i> , <b>2012</b> , 11, 1-2	3.4	2
26	Evaluation of tissue interactions with mechanical elements of a transscleral drug delivery device. <i>Pharmaceutics</i> , <b>2012</b> , 4, 212-29	6.4	2
25	Yield enhancement in micromechanical sensor fabrication using statistical process control <b>1997</b> , 3223, 276		2
24	Etch Selectivity of Novel Epitaxial Layers for Bulk Micromachining. <i>Materials Research Society Symposia Proceedings</i> , <b>1998</b> , 546, 69		2
23	. <i>Journal of Physics C: Solid State Physics</i> , <b>1986</b> , 19, L627-L630		2
22	Microfabrication Techniques in Scaffold Development <b>2008</b> , 87-119		2
21	Design and construction of three-dimensional physiologically-based vascular branching networks for respiratory assist devices. <i>Lab on A Chip</i> , <b>2021</b> , 21, 4637-4651	7.2	2
20	A bilayer small diameter vascular model for evaluation of drug induced vascular injury. <i>Biomicrofluidics</i> , <b>2016</b> , 10, 054116	3.2	2
19	A micromachined surface stress sensor with electronic readout. <i>Review of Scientific Instruments</i> , <b>2008</b> , 79, 015106	1.7	1
18	Biodegradable Microfluidic Scaffolds for Vascular Tissue Engineering. <i>Materials Research Society Symposia Proceedings</i> , <b>2004</b> , 845, 35		1
17	Effect of Multiple Trapping on Hydrogen Diffusion in Silicon. <i>Materials Science Forum</i> , <b>1992</b> , 83-87, 51-56	0.4	1
16	Formation Kinetics of Thermal Donors in Silicon*. <i>Materials Research Society Symposia Proceedings</i> , <b>1985</b> , 59, 173		1
15	3D Printed Monolithic Device for the Microfluidic Capture, Perfusion, and Analysis of Multicellular Spheroids.. <i>Frontiers in Medical Technology</i> , <b>2021</b> , 3, 646441	1.9	1
14	Toward Development of a Higher Flow Rate Hemocompatible Biomimetic Microfluidic Blood Oxygenator. <i>Micromachines</i> , <b>2021</b> , 12,	3.3	1
13	Intracochlear drug delivery: Fluorescent tracer evaluation for quantification of distribution in the cochlear partition. <i>European Journal of Pharmaceutical Sciences</i> , <b>2019</b> , 126, 49-58	5.1	1
12	Transport Models for Three-Dimensional Cell Culture Systems <b>2013</b> , 137-172		
11	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). <i>Advanced Healthcare Materials</i> , <b>2012</b> , 1, 134-134	10.1	
10	Transport Model for Microfluidic Device for Cell Culture and Tissue Development. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1299, 1		



- 9 Biodegradable Microfluidic Scaffolds with Tunable Degradation Properties from Amino Alcohol-based Poly(ester amide) Elastomers. *Materials Research Society Symposia Proceedings*, **2011**, 1299, 1
- 8 Fluid flow analysis in microfluidic devices by spectral-domain optical Doppler tomography **2005**, 5692, 174
- 7 Defect-Induced Shifts in the Elastic Constants of Silicon. *Materials Research Society Symposia Proceedings*, **2002**, 741, 5261
- 6 Neutron Irradiation-Induced Dimensional Changes in MEMS Glass Substrates. *Materials Research Society Symposia Proceedings*, **2001**, 687, 1
- 5 Capillary Formation In Microfabricated Polymer Scaffolds. *Materials Research Society Symposia Proceedings*, **2001**, 711, 1
- 4 A Unified Treatment of The Thermal Donor Hierarchies in Silicon and Germanium\*. *Materials Research Society Symposia Proceedings*, **1985**, 59, 159
- 3 Tissue Engineering: Multiscaled Representation of Tissue Architecture and Function **2006**, 737-761
- 2 Gecko-Inspired Tape-Based Adhesives **2012**, 195-223
- 1 A high-throughput system to probe and direct biological functions driven by complex hemodynamic environments **2019**, 297-322