David I Shreiber

List of Publications by Citations

74 papers	1,961 citations	27 h-index	43 g-index
100 ext. papers	2,289 ext. citations	3.9 avg, IF	4.87 L-index

#	Paper	IF	Citations
74	Spherical indentation of soft matter beyond the Hertzian regime: numerical and experimental validation of hyperelastic models. *Biomechanics and Modeling in Mechanobiology*, **2009**, 8, 345-58	3.8	205
73	Genipin-induced changes in collagen gels: correlation of mechanical properties to fluorescence. *Journal of Biomedical Materials Research - Part A*, **2008**, 87, 308-20	5.4	158
72	Neurite growth in 3D collagen gels with gradients of mechanical properties. *Biotechnology and Bioengineering*, **2009**, 102, 632-43	4.9	140
71	Mechanical properties of dura mater from the rat brain and spinal cord. *Journal of Neurotrauma*, **2008**, 25, 38-51	5.4	115
70	Temporal variations in cell migration and traction during fibroblast-mediated gel compaction. *Biophysical Journal*, **2003**, 84, 4102-14	2.9	97
69	Immediate damage to the blood-spinal cord barrier due to mechanical trauma. *Journal of Neurotrauma*, **2007**, 24, 492-507	5.4	90
68	Finite element analysis of spinal cord injury in the rat. *Journal of Neurotrauma*, **2008**, 25, 795-816	5.4	72
67	Effects of pdgf-bb on rat dermal fibroblast behavior in mechanically stressed and unstressed collagen and fibrin gels. *Experimental Cell Research*, **2001**, 266, 155-66	4.2	58
66	Characterization of methacrylated type-I collagen as a dynamic, photoactive hydrogel. *Biointerphases*, **2012**, 7, 25	1.8	57
65	Probing the influence of myelin and glia on the tensile properties of the spinal cord. *Biomechanics and Modeling in Mechanobiology*, **2009**, 8, 311-21	3.8	48
64	In Vivo Thresholds for Mechanical Injury to the Blood-Brain Barrier **1997**,		46
63	Modeling of microstructural kinematics during simple elongation of central nervous system tissue. *Journal of Biomechanical Engineering*, **2003**, 125, 798-804	2.1	43
62	Coating flexible probes with an ultra fast degrading polymer to aid in tissue insertion. *Biomedical Microdevices*, **2015**, 17, 34	3.7	42
61	Alginate micro-encapsulation of mesenchymal stromal cells enhances modulation of the neuro-inflammatory response. *Cytotherapy*, **2015**, 17, 1353-64	4.8	40
60	Vesicle deformation and poration under strong dc electric fields. *Physical Review E*, **2011**, 83, 066316	2.4	38
59	Transport, resealing, and re-poration dynamics of two-pulse electroporation-mediated molecular delivery. *Biochimica Et Biophysica Acta - Biomembranes*, **2015**, 1848, 1706-14	3.8	36
58	Microfluidic generation of haptotactic gradients through 3D collagen gels for enhanced neurite growth. *Journal of Neurotrauma*, **2011**, 28, 2377-87	5.4	35

57	A thermoreversible, photocrosslinkable collagen bio-ink for free-form fabrication of scaffolds for regenerative medicine. *Technology*, **2017**, 5, 185-195	3	34
56	Production of Highly Aligned Collagen Scaffolds by Freeze-drying of Self-assembled, Fibrillar Collagen Gels. *ACS Biomaterials Science and Engineering*, **2016**, 2, 643-651	5.5	34
55	Methacrylation induces rapid, temperature-dependent, reversible self-assembly of type-I collagen. *Langmuir*, **2014**, 30, 11204-11	4	33
54	Immediate in vivo response of the cortex and the blood-brain barrier following dynamic cortical deformation in the rat. *Neuroscience Letters*, **1999**, 259, 5-8	3.3	31
53	Quantification of propidium iodide delivery using millisecond electric pulses: experiments. *Biochimica Et Biophysica Acta - Biomembranes*, **2013**, 1828, 1322-8	3.8	30
52	Circular Dichroism Spectroscopy of Collagen Fibrillogenesis: A New Use for an Old Technique. *Biophysical Journal*, **2016**, 111, 2377-2386	2.9	29
51	Neuroprotection by genipin against reactive oxygen and reactive nitrogen species-mediated injury in organotypic hippocampal slice cultures. *Brain Research*, **2014**, 1543, 308-14	3.7	28
50	Neural cell type-specific responses to glycomimetic functionalized collagen. *Biomaterials*, **2012**, 33, 790-7	15.6	28
49	Porous and Nonporous Nerve Conduits: The Effects of a Hydrogel Luminal Filler With and Without a Neurite-Promoting Moiety. *Tissue Engineering - Part A*, **2016**, 22, 818-26	3.9	28
48	The effect of glycomimetic functionalized collagen on peripheral nerve repair. *Biomaterials*, **2012**, 33, 8353-62	15.6	27
47	The effects of electroporation buffer composition on cell viability and electro-transfection efficiency. *Scientific Reports*, **2020**, 10, 3053	4.9	25
46	Positively and negatively modulating cell adhesion to type I collagen via peptide grafting. *Tissue Engineering - Part A*, **2011**, 17, 1663-73	3.9	24
45	An in vitro assay of collagen fiber alignment by acupuncture needle rotation. *BioMedical Engineering OnLine*, **2008**, 7, 19	4.1	21
44	Scaling relationship and optimization of double-pulse electroporation. *Biophysical Journal*, **2014**, 106, 801-12	2.9	20
43	Axon kinematics change during growth and development. *Journal of Biomechanical Engineering*, **2007**, 129, 511-22	2.1	18
42	Nanofibrillar scaffolds induce preferential activation of Rho GTPases in cerebral cortical astrocytes. *International Journal of Nanomedicine*, **2012**, 7, 3891-905	7.3	17
41	A transition model for finite element simulation of kinematics of central nervous system white matter. *IEEE Transactions on Biomedical Engineering*, **2011**, 58, 3443-6	5	17
40	A novel implantable collagen gel assay for fibroblast traction and proliferation during wound healing. *Journal of Surgical Research*, **2002**, 105, 160-72	2.5	17

39	Finite Element Modeling of CNS White Matter Kinematics: Use of a 3D RVE to Determine Material Properties. *Frontiers in Bioengineering and Biotechnology*, **2013**, 1, 19	5.8	16
38	Modeling the Insertion Mechanics of Flexible Neural Probes Coated with Sacrificial Polymers for Optimizing Probe Design. *Sensors*, **2016**, 16,	3.8	16
37	Coherent Timescales and Mechanical Structure of Multicellular Aggregates. *Biophysical Journal*, **2018**, 114, 2703-2716	2.9	14
36	Differentiation of reactive-like astrocytes cultured on nanofibrillar and comparative culture surfaces. *Nanomedicine*, **2015**, 10, 529-45	5.6	12
35	Evaluating the in vivo glial response to miniaturized parylene cortical probes coated with an ultra-fast degrading polymer to aid insertion. *Journal of Neural Engineering*, **2018**, 15, 036002	5	12
34	Hydrodynamically controlled cell rotation in an electroporation microchip to circumferentially deliver molecules into single cells. *Microfluidics and Nanofluidics*, **2016**, 20, 1	2.8	11
33	Salicylic acid-based poly(anhydride-ester) nerve guidance conduits: Impact of localized drug release on nerve regeneration. *Journal of Biomedical Materials Research - Part A*, **2016**, 104, 975-82	5.4	9
32	Texture-based segmentation and a new cell shape index for quantitative analysis of cell spreading in AFM images. *Cytometry Part A: the Journal of the International Society for Analytical Cytology*, **2015**, 87, 1090-100	4.6	9
31	Enhanced femoral nerve regeneration after tubulization with a tyrosine-derived polycarbonate terpolymer: effects of protein adsorption and independence of conduit porosity. *Tissue Engineering - Part A*, **2014**, 20, 518-28	3.9	9
30	Continuous-flow, electrically-triggered, single cell-level electroporation **2017**, 05, 31-41		8
29	Collagen nanofibre anisotropy induces myotube differentiation and acetylcholine receptor clustering. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, e2010-e2019	4.4	8
28	Varying assay geometry to emulate connective tissue planes in an in vitro model of acupuncture needling. *Anatomical Record*, **2011**, 294, 243-52	2.1	7
27	Hyaluronic acid-based hydrogels with independently tunable mechanical and bioactive signaling features. *Biointerphases*, **2020**, 14, 061005	1.8	7
26	Estimating axonal strain and failure following white matter stretch using contactin-associated protein as a fiduciary marker. *Journal of Biomechanics*, **2017**, 51, 32-41	2.9	6
25	Characterization of the three-dimensional kinematic behavior of axons in central nervous system white matter. *Biomechanics and Modeling in Mechanobiology*, **2015**, 14, 1303-15	3.8	6
24	Nanoporous membrane-sealed microfluidic devices for improved cell viability. *Biomedical Microdevices*, **2011**, 13, 955-61	3.7	6
23	Nanoscale variation of bioadhesive substrates as a tool for engineering of cell matrix assembly. *Tissue Engineering - Part A*, **2008**, 14, 1237-50	3.9	6
22	Prostaglandin E Produced by Alginate-Encapsulated Mesenchymal Stromal Cells Modulates the Astrocyte Inflammatory Response. *Nano LIFE*, **2017**, 7,	0.9	4

21	Novel suction-based in vivo cutaneous DNA transfection platform. *Science Advances*, **2021**, 7, eabj0611	14.3	3
20	Microfluidic device-assisted etching of p-HEMA for cell or protein patterning. *Biotechnology Progress*, **2018**, 34, 243-248	2.8	2
19	Fabrication of a Multilayer Implantable Cortical Microelectrode Probe to Improve Recording Potential. *Journal of Microelectromechanical Systems*, **2021**, 30, 569-581	2.5	2
18	Molecular underpinnings of integrin binding to collagen-mimetic peptides containing vascular Ehlers-Danlos syndrome-associated substitutions. *Journal of Biological Chemistry*, **2019**, 294, 14442-14453	5.4	1
17	Free radical-mediated targeting and immobilization of coupled payloads. *Journal of Drug Targeting*, **2019**, 27, 1025-1034	5.4	1
16	Simulation of the Mechanical Behavior of White Matter Using a Micromechanics Finite Element Method. *Materials Research Society Symposia Proceedings*, **2011**, 1301, 87		1
15	Single-cell mechanical analysis and tension quantification via electrodeformation relaxation. *Physical Review E*, **2021**, 103, 032409	2.4	1
14	On the Transversely Isotropic, Hyperelastic Response of Central Nervous System White Matter Using a Hybrid Approach. *Journal of Engineering and Science in Medical Diagnostics and Therapy*, **2021**, 4,	1	1
13	Impact of Mixed Reality Presentation on STEM Engagement and Comprehension: A Pilot Study on Adult Scientists. *Biomedical Engineering Education*, **2021**, 1, 277-290		0
12	A novel quantitative volumetric spreading index definition and assessment of astrocyte spreading in vitro. *Cytometry Part A: the Journal of the International Society for Analytical Cytology*, **2017**, 91, 794-799	4.6	
11	New Atomic Force Microscopy Based Astrocyte Cell Shape Index. *Materials Research Society Symposia Proceedings*, **2013**, 1527, 1		
10	Engineered in vitro/in silico models to examine neurite target preference. *Journal of Neurotrauma*, **2011**, 28, 2363-75	5.4	
9	Investigation of Nanophysical Properties of Aging Polyamide Nanofibrillar Tissue Scaffolds by TEM, SAED, Contact Angle and Raman Spectroscopies. *Materials Research Society Symposia Proceedings*, **2012**, 1417, 75		
8	Differences in Nanoscale Elasticity of Planar and Nanofibrillar Tissue Cultures. *Materials Research Society Symposia Proceedings*, **2012**, 1417, 69		
7	Neurite Elongation and Branching on DNA Crosslinked Polyacrylamide Hydrogels **2007**, 991		
6	In Vivo Tissue-Level Thresholds for Spinal Cord Injury **2007**, 421		
5	Gradients of Stiffness Guide Neurite Growth in 3D Collagen Gels **2007**, 113		
4	Mechanical Properties of the Chick Embryo Spinal Cord **2007**, 621		

3 Macro- and Micro-Scale Probing of the Mechanical Properties of DNA-Crosslinked Gels Using Embedded Inclusions. *Materials Research Society Symposia Proceedings*, **2005**, 897, 1

2 Modifying the Properties of Collagen Scaffolds with Microfluidics. *Materials Research Society Symposia Proceedings*, **2005**, 897, 1

1 Tissue mechanics during acupuncture and manual therapies. *FASEB Journal*, **2007**, 21, A84 0.9