Ravi V Bellamkonda

List of Publications by Year
in descending order

125 papers	11,304 citations	25034 57 h-index	29157 104 g-index
131 all docs	131 docs citations	131 times ranked	13413 citing authors

#	Article	IF	Citations
1	Implanted Neural Interfaces: Biochallenges and Engineered Solutions. Annual Review of Biomedical Engineering, 2009, 11, 1-24.	12.3	484
2	Nanomaterials for Neural Interfaces. Advanced Materials, 2009, 21, 3970-4004.	21.0	460
3	Topography, Cell Response, and Nerve Regeneration. Annual Review of Biomedical Engineering, 2010, 12, 203-231.	12.3	457
4	Implanted neural electrodes cause chronic, local inflammation that is correlated with local neurodegeneration. Journal of Neural Engineering, 2009, 6, 056003.	3.5	404
5	The role of aligned polymer fiber-based constructs in the bridging of long peripheral nerve gaps. Biomaterials, 2008, 29, 3117-3127.	11.4	402
6	Peripheral nerve regeneration: An opinion on channels, scaffolds and anisotropyâ˜†. Biomaterials, 2006, 27, 3515-8.	11.4	305
7	Dexamethasone-coated neural probes elicit attenuated inflammatory response and neuronal loss compared to uncoated neural probes. Brain Research, 2007, 1148, 15-27.	2.2	281
8	Sustained delivery of thermostabilized chABC enhances axonal sprouting and functional recovery after spinal cord injury. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3340-3345.	7.1	281
9	In situ gelling hydrogels for conformal repair of spinal cord defects, and local delivery of BDNF after spinal cord injury. Biomaterials, 2006, 27, 497-504.	11.4	274
10	Effect of modulating macrophage phenotype on peripheral nerve repair. Biomaterials, 2012, 33, 8793-8801.	11.4	273
11	Controlled targeting of liposomal doxorubicin via the folate receptor in vitro. Journal of Controlled Release, 2003, 92, 49-67.	9.9	268
12	Biomechanical analysis of silicon microelectrode-induced strain in the brain. Journal of Neural Engineering, 2005, 2, 81-89.	3.5	239
13	The impact of chronic bloodâ€“brain barrier breach on intracortical electrode function. Biomaterials, 2013, 34, 4703-4713.	11.4	239
14	Differences between the effect of anisotropic and isotropic laminin and nerve growth factor presenting scaffolds on nerve regeneration across long peripheral nerve gaps. Biomaterials, 2008, 29, 33-46.	11.4	229
15	A Liposomal Nanoscale Contrast Agent for Preclinical CT in Mice. American Journal of Roentgenology, 2006, 186, 300-307.	2.2	226
16	Remote Triggered Release of Doxorubicin in Tumors by Synergistic Application of Thermosensitive Liposomes and Gold Nanorods. ACS Nano, 2011, 5, 4919-4926.	14.6	221
17	Relationship between intracortical electrode design and chronic recording function. Biomaterials, 2013, 34, 8061-8074.	11.4	220
18	A dual-ligand approach for enhancing targeting selectivity of therapeutic nanocarriers. Journal of Controlled Release, 2006, 114, 277-287.	9.9	212

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19	Biomaterials for the central nervous system. Journal of the Royal Society Interface, 2008, 5, 957-975.	3.4	205
20	A Laminin and Nerve Growth Factor-Laden Three-Dimensional Scaffold for Enhanced Neurite Extension. Tissue Engineering, 1999, 5, 291-304.	4.6	181
21	Nanoparticle-mediated local delivery of methylprednisolone after spinal cord injury. Biomaterials, 2009, 30, 2582-2590.	11.4	181
22	Tissue-Engineered Scaffolds Are Effective Alternatives to Autografts for Bridging Peripheral Nerve Gaps. Tissue Engineering, 2003, 9, 421-430.	4.6	173
23	The influence of physical structure and charge on neurite extension in a 3D hydrogel scaffold. Journal of Biomaterials Science, Polymer Edition, 1998, 9, 1049-1069.	3.5	168
24	Nanoscale laminin coating modulates cortical scarring response around implanted silicon microelectrode arrays. Journal of Neural Engineering, 2006, 3, 316-326.	3.5	158
25	CS-4,6 is differentially upregulated in glial scar and is a potent inhibitor of neurite extension. Molecular and Cellular Neurosciences, 2005, 29, 545-558.	2.2	152
26	Nanoscale neuro-integrative coatings for neural implants. Biomaterials, 2005, 26, 2983-2990.	11.4	142
27	Spatial distribution and acute anti-inflammatory effects of Methylprednisolone after sustained local delivery to the contused spinal cord. Biomaterials, 2008, 29, 1967-1975.	11.4	134
28	Sustained VEGF delivery via PLGA nanoparticles promotes vascular growth. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H1959-H1965.	3.2	128
29	Guiding intracortical brain tumour cells to an extracortical cytotoxic hydrogel using aligned polymeric nanofibres. Nature Materials, 2014, 13, 308-316.	27.5	128
30	Masking and triggered unmasking of targeting ligands on nanocarriers to improve drug delivery to brain tumors. Biomaterials, 2009, 30, 3986-3995.	11.4	122
31	Thin-film enhanced nerve guidance channels for peripheral nerve repair. Biomaterials, 2009, 30, 3834-3846.	11.4	122
32	Photocrosslinkable chitosan based hydrogels for neural tissue engineering. Soft Matter, 2012, 8, 1964-1976.	2.7	115
33	Nanoparticles with targeting, triggered release, and imaging functionality for cancer applications. Soft Matter, 2011, 7, 839-856.	2.7	113
34	Targeted drug delivery to C6 glioma by transferrin-coupled liposomes. Journal of Biomedical Materials Research Part B, 2000, 51, 10-14.	3.1	109
35	Controlled release of anti-inflammatory agent Î±-MSH from neural implants. Journal of Controlled Release, 2005, 106, 309-318.	9.9	109
36	Anisotropic scaffolds facilitate enhanced neurite extensionin vitro. Journal of Biomedical Materials Research - Part A, 2006, 78A, 213-221.	4.0	105

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37	Role of fibronectin in topographical guidance of neurite extension on electrospun fibers. Biomaterials, 2011, 32, 3958-3968.	11.4	105
38	Anti-Invasive Adjuvant Therapy with Imipramine Blue Enhances Chemotherapeutic Efficacy Against Glioma. Science Translational Medicine, 2012, 4, 127ra36.	12.4	102
39	Long-Residence-Time Nano-Scale Liposomal Iohexol for X-rayâ€“Based Blood Pool Imaging. Academic Radiology, 2003, 10, 475-483.	2.5	98
40	Imaging Nanoprobe for Prediction of Outcome of Nanoparticle Chemotherapy by Using Mammography. Radiology, 2009, 250, 398-406.	7.3	96
41	A Perspective on Immunomodulation and Tissue Repair. Annals of Biomedical Engineering, 2014, 42, 338-351.	2.5	94
42	The upregulation of specific interleukin (IL) receptor antagonists and paradoxical enhancement of neuronal apoptosis due to electrode induced strain and brain micromotion. Biomaterials, 2012, 33, 5983-5996.	11.4	92
43	Folate targeting of drug carriers: A mathematical model. Journal of Controlled Release, 2005, 104, 113-128.	9.9	91
44	Decreased circulation time offsets increased efficacy of PEGylated nanocarriers targeting folate receptors of glioma. Nanotechnology, 2007, 18, 385101.	2.6	91
45	Dorsal root ganglia neurite extension is inhibited by mechanical and chondroitin sulfate-rich interfaces. Journal of Neuroscience Research, 2001, 66, 303-310.	2.9	89
46	Sustained release of plasmid DNA using lipid microtubules and agarose hydrogel. Journal of Controlled Release, 2003, 88, 321-331.	9.9	88
47	Lipid-based microtubular drug delivery vehicles. Journal of Controlled Release, 2001, 71, 141-152.	9.9	86
48	Evaluation of Tumor Microenvironment in an Animal Model using a Nanoparticle Contrast Agent in Computed Tomography Imaging. Academic Radiology, 2011, 18, 20-30.	2.5	84
49	Long-circulating liposomal contrast agents for magnetic resonance imaging. Magnetic Resonance in Medicine, 2006, 55, 1023-1029.	3.0	79
50	Nanocarrier-Mediated Inhibition of Macrophage Migration Inhibitory Factor Attenuates Secondary Injury after Spinal Cord Injury. ACS Nano, 2015, 9, 1492-1505.	14.6	75
51	Modulation of Rho GTPase activity alleviates chondroitin sulfate proteoglycanâ€dependent inhibition of neurite extension. Journal of Neuroscience Research, 2004, 77, 299-307.	2.9	66
52	Sustained Delivery of Activated Rho GTPases and BDNF Promotes Axon Growth in CSPG-Rich Regions Following Spinal Cord Injury. PLoS ONE, 2011, 6, e16135.	2.5	65
53	Immunoengineering nerve repair. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5077-E5084.	7.1	65
54	Enhanced therapeutic neovascularization by CD31-expressing cells and embryonic stem cell-derived endothelial cells engineered with chitosan hydrogel containing VEGF-releasing microtubes. Biomaterials, 2015, 63, 158-167.	11.4	64

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55	Tumor Vascular Permeability to a Nanoprobe Correlates to Tumor-Specific Expression Levels of Angiogenic Markers. PLoS ONE, 2009, 4, e5843.	2.5	64
56	Chondroitin Sulfate Glycosaminoglycan Hydrogels Create Endogenous Niches for Neural Stem Cells. Bioconjugate Chemistry, 2015, 26, 2336-2349.	3.6	62
57	Engineering challenges for brain tumor immunotherapy. Advanced Drug Delivery Reviews, 2017, 114, 19-32.	13.7	62
58	Therapeutic efficacy of microtube-embedded chondroitinase ABC in a canine clinical model of spinal cord injury. Brain, 2018, 141, 1017-1027.	7.6	61
59	Highly-compliant, microcable neuroelectrodes fabricated from thin-film gold and PDMS. Biomedical Microdevices, 2011, 13, 361-373.	2.8	59
60	Multifunctional nanocarriers for mammographic quantification of tumor dosing and prognosis of breast cancer therapy. Biomaterials, 2008, 29, 4815-4822.	11.4	58
61	eNOS-Overexpressing Endothelial Cells Inhibit Platelet Aggregation and Smooth Muscle Cell Proliferation in Vitro. Tissue Engineering, 2000, 6, 241-251.	4.6	56
62	Protease-degradable PEG-maleimide coating with on-demand release of IL-1Ra to improve tissue response to neural electrodes. Biomaterials, 2015, 44, 55-70.	11.4	55
63	Preparation of in vivo cleavable agglomerated liposomes suitable for modulated pulmonary drug delivery. Journal of Controlled Release, 2005, 103, 159-175.	9.9	51
64	Kilohertz frequency nerve block enhances anti-inflammatory effects of vagus nerve stimulation. Scientific Reports, 2017, 7, 39810.	3.3	51
65	The polarity and magnitude of ambient charge influences three-dimensional neurite extension from DRGs. Journal of Biomedical Materials Research Part B, 2000, 51, 510-519.	3.1	50
66	The effect of inflammatory cell-derived MCP-1 loss on neuronal survival during chronic neuroinflammation. Biomaterials, 2014, 35, 6698-6706.	11.4	48
67	Microchannel-based regenerative scaffold for chronic peripheral nerve interfacing in amputees. Biomaterials, 2015, 41, 151-165.	11.4	48
68	Host response to microgel coatings on neural electrodes implanted in the brain. Journal of Biomedical Materials Research - Part A, 2014, 102, 1486-1499.	4.0	46
69	Extracellular matrix-based intracortical microelectrodes: Toward a microfabricated neural interface based on naturalÂmaterials. Microsystems and Nanoengineering, 2015, 1, .	7.0	46
70	Extraction Force and Cortical Tissue Reaction of Silicon Microelectrode Arrays Implanted in the Rat Brain. IEEE Transactions on Biomedical Engineering, 2007, 54, 1097-1107.	4.2	44
71	Targeted downregulation of Nâ€acetylgalactosamine 4â€sulfate 6â€Oâ€sulfotransferase significantly mitigates chondroitin sulfate proteoglycanâ€mediated inhibition. Glia, 2011, 59, 981-996.	4.9	44
72	Chondroitin Sulfate Glycosaminoglycan Matrices Promote Neural Stem Cell Maintenance and Neuroprotection Post-Traumatic Brain Injury. ACS Biomaterials Science and Engineering, 2017, 3, 420-430.	5.2	44

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73	Discovery of Lipidome Alterations Following Traumatic Brain Injury via High-Resolution Metabolomics. Journal of Proteome Research, 2018, 17, 2131-2143.	3.7	44
74	Sustained in Vivo Gene Delivery from Agarose Hydrogel Prolongs Nonviral Gene Expression in Skin. Tissue Engineering, 2005, 11, 546-555.	4.6	43
75	Sustained release of BMP-2 in a lipid-based microtube vehicle. Acta Biomaterialia, 2009, 5, 23-28.	8.3	40
76	Regenerative Scaffold Electrodes for Peripheral Nerve Interfacing. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 554-566.	4.9	40
77	Noninvasive Imaging of Peripheral Nerves. Cells Tissues Organs, 2014, 200, 69-77.	2.3	38
78	Immuno-suppressive hydrogels enhance allogeneic MSC survival after transplantation in the injured brain. Biomaterials, 2021, 266, 120419.	11.4	34
79	Enrichment of endogenous fractalkine and anti-inflammatory cells via aptamer-functionalized hydrogels. Biomaterials, 2017, 142, 52-61.	11.4	31
80	Materials for neural interfaces. MRS Bulletin, 2012, 37, 557-561.	3.5	29
81	Advances in Bioengineered Conduits for Peripheral Nerve Regeneration. Atlas of the Oral and Maxillofacial Surgery Clinics of North America, 2011, 19, 119-130.	1.0	28
82	Selective Targeting of Nanocarriers to Neutrophils and Monocytes. Annals of Biomedical Engineering, 2009, 37, 1984-1992.	2.5	27
83	Hydrogels as Carriers for Stem Cell Transplantation. IEEE Transactions on Biomedical Engineering, 2014, 61, 1474-1481.	4.2	26
84	Bacterial Carriers for Glioblastoma Therapy. Molecular Therapy - Oncolytics, 2017, 4, 1-17.	4.4	26
85	Peripheral Nerve Regeneration. , 2019, , 1223-1236.		23
86	Correlation of mRNA Expression and Signal Variability in Chronic Intracortical Electrodes. Frontiers in Bioengineering and Biotechnology, 2018, 6, 26.	4.1	22
87	Electrotaxis of Glioblastoma and Medulloblastoma Spheroidal Aggregates. Scientific Reports, 2019, 9, 5309.	3.3	22
88	In Vitro Transcribed mRNA Vaccines with Programmable Stimulation of Innate Immunity. Bioconjugate Chemistry, 2018, 29, 3072-3083.	3.6	21
89	A sensor web for neurons. Nature Materials, 2015, 14, 1190-1191.	27.5	20
90	A regenerative microchannel device for recording multiple singleâ€unit action potentials in awake, ambulatory animals. European Journal of Neuroscience, 2016, 43, 474-485.	2.6	20

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91	MRI mediated, non-invasive tracking of intratumoral distribution of nanocarriers in rat glioma. Nanotechnology, 2008, 19, 315101.	2.6	18
92	Isolation and Purification of Canine Adipose Microvascular Endothelial Cells. Microvascular Research, 2001, 61, 220-226.	2.5	17
93	Strategies for modulating innate immune activation and protein production of in vitro transcribed mRNAs. Journal of Materials Chemistry B, 2016, 4, 1619-1632.	5.8	17
94	Overcoming Endogenous Constraints on Neuronal Regeneration. IEEE Transactions on Biomedical Engineering, 2011, 58, 1900-1906.	4.2	15
95	Slowâ€release nanoparticleâ€encapsulated delivery system for laryngeal injection. Laryngoscope, 2010, 120, 988-994.	2.0	14
96	Toward a Convergence of Regenerative Medicine, Rehabilitation, and Neuroprosthetics. Journal of Neurotrauma, 2011, 28, 2329-2347.	3.4	14
97	Engineered glycomaterial implants orchestrate large-scale functional repair of brain tissue chronically after severe traumatic brain injury. Science Advances, 2021, 7, .	10.3	14
98	Neuromechanobiology: An Expanding Field Driven by the Force of Greater Focus. Advanced Healthcare Materials, 2021, 10, e2100102.	7.6	14
99	Cerivastatin Nanoliposome as a Potential Disease Modifying Approach for the Treatment of Pulmonary Arterial Hypertension. Journal of Pharmacology and Experimental Therapeutics, 2018, 366, 66-74.	2.5	13
100	Response reliability observed with voltage-sensitive dye imaging of cortical layer 2/3: the probability of activation hypothesis. Journal of Neurophysiology, 2016, 115, 2456-2469.	1.8	11
101	Enriching neural stem cell and antiâ€inflammatory glial phenotypes with electrical stimulation after traumatic brain injury in male rats. Journal of Neuroscience Research, 2021, 99, 1864-1884.	2.9	11
102	Characterization of a composite injury model of severe lower limb bone and nerve trauma. Journal of Tissue Engineering and Regenerative Medicine, 2014, 8, 432-441.	2.7	10
103	Evans blue nanocarriers visually demarcate margins of invasive gliomas. Drug Delivery and Translational Research, 2015, 5, 116-124.	5.8	10
104	Cationic lipid-mediated transfection of bovine aortic endothelial cells inhibits their attachment. Journal of Biomedical Materials Research Part B, 2002, 60, 405-410.	3.1	7
105	Rational identification of a novel peptide for targeting nanocarriers to 9L glioma. Journal of Biomedical Materials Research - Part A, 2008, 87A, 728-738.	4.0	7
106	A conformable microelectrode array (cMEA) with integrated electronics for peripheral nerve interfacing. , 2010, , .		7
107	The use of lipid microtubes as a novel slowâ€release delivery system for laryngeal injection. Laryngoscope, 2011, 121, 1237-1243.	2.0	7
108	Neuronal Tissue Engineering. , 2013, , 1291-1306.		7

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109	Chondroitin Sulfate Glycosaminoglycans for CNS Homeostasis-Implications for Material Design. Current Medicinal Chemistry, 2014, 21, 4257-4281.	2.4	7
110	The impact of modulating the bloodâ€“brain barrier on the electrophysiological and histological outcomes of intracortical electrodes. Journal of Neural Engineering, 2019, 16, 046005.	3.5	6
111	A regenerative electrode scaffold for peripheral nerve interfacing. , 2007, , .		5
112	Regenerative microchannel electrode array for peripheral nerve interfacing. , 2011, , .		5
113	Engineering Controlled Peritumoral Inflammation to Constrain Brain Tumor Growth. Advanced Healthcare Materials, 2019, 8, e1801076.	7.6	5
114	Microfabrication, Coil Characterization, and Hermetic Packaging of Millimeter-Sized Free-Floating Neural Probes. IEEE Sensors Journal, 2021, 21, 13837-13848.	4.7	5
115	Peripheral Nerve Regeneration. , 2008, , 1270-1285.		4
116	PDMS microchannel scaffolds for neural interfaces with the peripheral nervous system. , 2014, , .		4
117	Neural Tissue Engineering. , 2020, , 639-667.		4
118	Acute spatiotemporal changes in neuronal density surrounding microelectrode arrays implanted in rat motor cortex. , 2007, , .		2
119	Targeted drug delivery to C6 glioma by transferrinâ€coupled liposomes. Journal of Biomedical Materials Research Part B, 2000, 51, 10-14.	3.1	2
120	Peripheral Nerve Regeneration. , 2011, , 1047-1062.		1
121	The polarity and magnitude of ambient charge influences threeâ€dimensional neurite extension from DRGs. Journal of Biomedical Materials Research Part B, 2000, 51, 510-519.	3.1	1
122	Characterization and Analysis of Highly Hydrated, Three Dimensional Cell-Matrix Constructs. Microscopy and Microanalysis, 1999, 5, 388-389.	0.4	0
123	Lipid Microtubules as Sustained Delivery Vehicles for Proteins and Nucleic Acids. ACS Symposium Series, 2004, , 85-97.	0.5	0
124	Multifunctional Nanoparticles for Personalized Medicine. Nanostructure Science and Technology, 2012, , 277-293.	0.1	0
125	Nano- and Micro-Technology to Spatially and Temporally Control Proteins for Neural Regeneration. , 2006, , 3-22.		0