Benedetto Marelli

List of Publications by Citations

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

83 papers	3,631 citations	34 h-index	59 g-index
89 ext. papers	4,263 ext. citations	11.1 avg, IF	5.5 L-index

#	Paper	IF	Citations
83	Highly tunable elastomeric silk biomaterials. *Advanced Functional Materials*, **2014**, 24, 4615-4624	15.6	265
82	Silk-based resorbable electronic devices for remotely controlled therapy and in vivo infection abatement. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 17385-9	11.5	223
81	All-water-based electron-beam lithography using silk as a resist. *Nature Nanotechnology*, **2014**, 9, 306-10	28.7	195
80	Accelerated mineralization of dense collagen-nano bioactive glass hybrid gels increases scaffold stiffness and regulates osteoblastic function. *Biomaterials*, **2011**, 32, 8915-26	15.6	157
79	Inkjet Printing of Regenerated Silk Fibroin: From Printable Forms to Printable Functions. *Advanced Materials*, **2015**, 27, 4273-9	24	143
78	Compliant electrospun silk fibroin tubes for small vessel bypass grafting. *Acta Biomaterialia*, **2010**, 6, 4019-26	10.8	135
77	Three-dimensional mineralization of dense nanofibrillar collagen-bioglass hybrid scaffolds. *Biomacromolecules*, **2010**, 11, 1470-9	6.9	127
76	Silk Fibroin as Edible Coating for Perishable Food Preservation. *Scientific Reports*, **2016**, 6, 25263	4.9	117
75	Directed assembly of bio-inspired hierarchical materials with controlled nanofibrillar architectures. *Nature Nanotechnology*, **2017**, 12, 474-480	28.7	111
74	Laser-based three-dimensional multiscale micropatterning of biocompatible hydrogels for customized tissue engineering scaffolds. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 12052-7	11.5	104
73	Silk fibroin derived polypeptide-induced biomineralization of collagen. *Biomaterials*, **2012**, 33, 102-8	15.6	97
72	In vitro reactivity of Cu doped 45S5 Bioglass derived scaffolds for bone tissue engineering. *Journal of Materials Chemistry B*, **2013**, 1, 5659-5674	7.3	95
71	Photocrosslinking of Silk Fibroin Using Riboflavin for Ocular Prostheses. *Advanced Materials*, **2016**, 28, 2417-20	24	88
70	Engineering the Future of Silk Materials through Advanced Manufacturing. *Advanced Materials*, **2018**, 30, e1706983	24	81
69	Additive Manufacturing Approaches for Hydroxyapatite-Reinforced Composites. *Advanced Functional Materials*, **2019**, 29, 1903055	15.6	70
68	Silk-Based Biocompatible Random Lasing. *Advanced Optical Materials*, **2016**, 4, 998-1003	8.1	66
67	Synthesis of silk fibroin micro- and submicron spheres using a co-flow capillary device. *Advanced Materials*, **2014**, 26, 1105-10	24	62

66	Electrospun Silk Fibroin Mats for Tissue Engineering. *Engineering in Life Sciences*, **2008**, 8, 219-225	3.4	59
65	Programming function into mechanical forms by directed assembly of silk bulk materials. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 451-456	11.5	58
64	Collagen-reinforced electrospun silk fibroin tubular construct as small calibre vascular graft. *Macromolecular Bioscience*, **2012**, 12, 1566-74	5.5	57
63	Nanoscale probing of electron-regulated structural transitions in silk proteins by near-field IR imaging and nano-spectroscopy. *Nature Communications*, **2016**, 7, 13079	17.4	54
62	An in vitro assessment of a cell-containing collagenous extracellular matrix-like scaffold for bone tissue engineering. *Tissue Engineering - Part A*, **2010**, 16, 781-93	3.9	52
61	Immediate production of a tubular dense collagen construct with bioinspired mechanical properties. *Acta Biomaterialia*, **2012**, 8, 1813-25	10.8	51
60	Osteoid-mimicking dense collagen/chitosan hybrid gels. *Biomacromolecules*, **2011**, 12, 2946-56	6.9	49
59	Regulation of enamel hardness by its crystallographic dimensions. *Acta Biomaterialia*, **2012**, 8, 3400-10	10.8	46
58	Tissue-mimicking gelatin scaffolds by alginate sacrificial templates for adipose tissue engineering. *Acta Biomaterialia*, **2019**, 87, 61-75	10.8	46
57	3D Functional Corneal Stromal Tissue Equivalent Based on Corneal Stromal Stem Cells and Multi-Layered Silk Film Architecture. *PLoS ONE*, **2017**, 12, e0169504	3.7	45
56	Trace elements can influence the physical properties of tooth enamel. *SpringerPlus*, **2013**, 2, 499		42
55	Fabrication of injectable, cellular, anisotropic collagen tissue equivalents with modular fibrillar densities. *Biomaterials*, **2015**, 37, 183-93	15.6	41
54	Regenerated silk materials for functionalized silk orthopedic devices by mimicking natural processing. *Biomaterials*, **2016**, 110, 24-33	15.6	40
53	The role of enamel crystallography on tooth shade. *Journal of Dentistry*, **2011**, 39 Suppl 3, e3-10	4.8	40
52	Transparent, Nanostructured Silk Fibroin Hydrogels with Tunable Mechanical Properties. *ACS Biomaterials Science and Engineering*, **2015**, 1, 964-970	5.5	39
51	Real time responses of fibroblasts to plastically compressed fibrillar collagen hydrogels. *Biomaterials*, **2011**, 32, 4761-72	15.6	38
50	Soil Sensors and Plant Wearables for Smart and Precision Agriculture. *Advanced Materials*, **2021**, 33, e2007764	24	35
49	Fibril formation pH controls intrafibrillar collagen biomineralization in vitro and in vivo. *Biomaterials*, **2015**, 37, 252-9	15.6	33

48	Eco-friendly photolithography using water-developable pure silk fibroin. *RSC Advances*, **2016**, 6, 39330-39334	3.7	33
47	Collagen gel fibrillar density dictates the extent of mineralizationin vitro. *Soft Matter*, **2011**, 7, 9898	3.6	32
46	Newly identified interfibrillar collagen crosslinking suppresses cell proliferation and remodelling. *Biomaterials*, **2015**, 54, 126-35	15.6	31
45	Doxorubicin loaded nanodiamond-silk spheres for fluorescence tracking and controlled drug release. *Biomedical Optics Express*, **2016**, 7, 132-47	3.5	29
44	Fluorescent Nanodiamond Silk Fibroin Spheres: Advanced Nanoscale Bioimaging Tool. *ACS Biomaterials Science and Engineering*, **2015**, 1, 1104-1113	5.5	28
43	The role of physiological mechanical cues on mesenchymal stem cell differentiation in an airway tract-like dense collagen-silk fibroin construct. *Biomaterials*, **2014**, 35, 6236-47	15.6	27
42	A bioinspired approach to engineer seed microenvironment to boost germination and mitigate soil salinity. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 25555-25561	11.5	26
41	An airway smooth muscle cell niche under physiological pulsatile flow culture using a tubular dense collagen construct. *Biomaterials*, **2013**, 34, 1954-66	15.6	25
40	Mesenchymal stem cell-seeded multilayered dense collagen-silk fibroin hybrid for tissue engineering applications. *Biotechnology Journal*, **2011**, 6, 1198-207	5.6	25
39	Fibroblast contractility and growth in plastic compressed collagen gel scaffolds with microstructures correlated with hydraulic permeability. *Journal of Biomedical Materials Research - Part A*, **2011**, 96, 609-20	5.4	25
38	Stabilization of Amorphous Calcium Carbonate with Nanofibrillar Biopolymers. *Advanced Functional Materials*, **2012**, 22, 3460-3469	15.6	22
37	Methods and Applications of Multilayer Silk Fibroin Laminates Based on Spatially Controlled Welding in Protein Films. *Advanced Functional Materials*, **2016**, 26, 44-50	15.6	22
36	Modulation of polycaprolactone composite properties through incorporation of mixed phosphate glass formulations. *Acta Biomaterialia*, **2010**, 6, 3157-68	10.8	21
35	A Multilayered Edible Coating to Extend Produce Shelf Life. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 14312-14321	8.3	21
34	Cashmere-derived keratin for device manufacturing on the micro- and nanoscale. *Journal of Materials Chemistry C*, **2015**, 3, 2783-2787	7.1	20
33	A Microneedle Technology for Sampling and Sensing Bacteria in the Food Supply Chain. *Advanced Functional Materials*, **2021**, 31, 2005370	15.6	20
32	Multilayered dense collagen-silk fibroin hybrid: a platform for mesenchymal stem cell differentiation towards chondrogenic and osteogenic lineages. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 2046-2059	4.4	19
31	Gain-Based Mechanism for pH Sensing Based on Random Lasing. *Physical Review Applied*, **2017**, 7,	4.3	19

30	Rapid fabrication of silk films with controlled architectures via electrogelation. *Journal of Materials Chemistry B*, **2014**, 2, 4983-4987	7.3	18
29	Precision Delivery of Multiscale Payloads to Tissue-Specific Targets in Plants. *Advanced Science*, **2020**, 7, 1903551	13.6	18
28	Enhanced photoluminescence of Si nanocrystals-doped cellulose nanofibers by plasmonic light scattering. *Applied Physics Letters*, **2015**, 107, 041111	3.4	17
27	Artificial intelligence method to design and fold alpha-helical structural proteins from the primary amino acid sequence. *Extreme Mechanics Letters*, **2020**, 36, 100652	3.9	16
26	Determination of multiphoton absorption of silk fibroin using the Z-scan technique. *Optics Express*, **2013**, 21, 29637-42	3.3	13
25	Silk fibroin hydroxyapatite composite thermal stabilisation of carbonic anhydrase. *Journal of Materials Chemistry A*, **2015**, 3, 19282-19287	13	12
24	Polypeptide templating for designer hierarchical materials. *Nature Communications*, **2020**, 11, 351	17.4	12
23	Electrospun silk fibroin tubular matrixes for small vessel bypass grafting. *Materials Technology*, **2009**, 24, 52-57	2.1	12
22	Self-Perpetuating Carbon Foam Microwave Plasma Conversion of Hydrocarbon Wastes into Useful Fuels and Chemicals. *Environmental Science & Technology*, **2021**, 55, 6239-6247	10.3	12
21	Anionic fibroin-derived polypeptides accelerate MSC osteoblastic differentiation in a three-dimensional osteoid-like dense collagen niche. *Journal of Materials Chemistry B*, **2014**, 2, 5339-5343	7.3	11
20	Engineering the Plant Microenvironment To Facilitate Plant-Growth-Promoting Microbe Association. *Journal of Agricultural and Food Chemistry*, **2021**, 69, 13270-13285	5.7	10
19	Photonic paper: Multiscale assembly of reflective cellulose sheets in. *Science Advances*, **2020**, 6,	14.3	8
18	Regulated fracture in tooth enamel: a nanotechnological strategy from nature. *Journal of Biomechanics*, **2014**, 47, 2444-51	2.9	8
17	Silk: A Different Kind of Fiber Optics *Optics and Photonics News*, **2014**, 25, 28	1.9	7
16	Co-Assembly of Cellulose Nanocrystals and Silk Fibroin into Photonic Cholesteric Films. *Advanced Sustainable Systems*, **2021**, 5, 2000272	5.9	7
15	Towards the fabrication of biohybrid silk fibroin materials: entrapment and preservation of chloroplast organelles in silk fibroin films. *RSC Advances*, **2016**, 6, 72366-72370	3.7	6
14	Growing silk fibroin in advanced materials for food security. *MRS Communications*, **2021**, 11, 31-45	2.7	6
13	Poly(d,l-Lactic acid) Composite Foams Containing Phosphate Glass Particles Produced via Solid-State Foaming Using CO for Bone Tissue Engineering Applications. *Polymers*, **2020**, 12,	4.5	5

12	Silk Fibroin: Photocrosslinking of Silk Fibroin Using Riboflavin for Ocular Prostheses (Adv. Mater. 12/2016). *Advanced Materials*, **2016**, 28, 2464-2464	24	5
11	Programmable design of seed coating function induces water-stress tolerance in semi-arid regions. *Nature Food*,	14.4	4
10	Smart Agriculture Systems: Soil Sensors and Plant Wearables for Smart and Precision Agriculture (Adv. Mater. 20/2021). *Advanced Materials*, **2021**, 33, 2170156	24	3
9	Fully implantable and resorbable wireless medical devices for postsurgical infection abatement **2015**,		2
8	Edible Biopolymers for Food Preservation **2021**, 57-105		2
7	Bioformulation of Silk-Based Coating to Preserve and Deliver to Under Saline Environments. *Frontiers in Plant Science*, **2021**, 12, 700273	6.2	2
6	Biomaterials Technology for AgroFood Resilience. *Advanced Functional Materials*,2201930	15.6	2
5	Biomaterials for boosting food security.. *Science*, **2022**, 376, 146-147	33.3	1
4	Silk Materials: Engineering the Future of Silk Materials through Advanced Manufacturing (Adv. Mater. 33/2018). *Advanced Materials*, **2018**, 30, 1870250	24	0
3	Collagen-based tubular constructs for tissue engineering applications **2014**, 589-632		
2	Mineralization of nanomaterials for bone tissue engineering **2013**, 387-416		
1	Plant Microbiome Modulation Through Seed Coating: A Novel Approach for a Smart and Efficient Microbial Delivery. *Rhizosphere Biology*, **2022**, 213-234	0.8	