# Benedetto Marelli

## List of Publications by Year in Descending Order



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| 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 | Biomaterials for boosting food security.. *Science*, **2022**, 376, 146-147 | 33.3 | 1 |
| 82 | Plant Microbiome Modulation Through Seed Coating: A Novel Approach for a Smart and Efficient Microbial Delivery. *Rhizosphere Biology*, **2022**, 213-234 | 0.8 | |
| 81 | Co-Assembly of Cellulose Nanocrystals and Silk Fibroin into Photonic Cholesteric Films. *Advanced Sustainable Systems*, **2021**, 5, 2000272 | 5.9 | 7 |
| 80 | Engineering the Plant Microenvironment To Facilitate Plant-Growth-Promoting Microbe Association. *Journal of Agricultural and Food Chemistry*, **2021**, 69, 13270-13285 | 5.7 | 10 |
| 79 | Soil Sensors and Plant Wearables for Smart and Precision Agriculture. *Advanced Materials*, **2021**, 33, e2007764 | 24 | 35 |
| 78 | 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 |
| 77 | Smart Agriculture Systems: Soil Sensors and Plant Wearables for Smart and Precision Agriculture (Adv. Mater. 20/2021). *Advanced Materials*, **2021**, 33, 2170156 | 24 | 3 |
| 76 | A Microneedle Technology for Sampling and Sensing Bacteria in the Food Supply Chain. *Advanced Functional Materials*, **2021**, 31, 2005370 | 15.6 | 20 |
| 75 | Edible Biopolymers for Food Preservation **2021**, 57-105 | | 2 |
| 74 | Growing silk fibroin in advanced materials for food security. *MRS Communications*, **2021**, 11, 31-45 | 2.7 | 6 |
| 73 | Bioformulation of Silk-Based Coating to Preserve and Deliver to Under Saline Environments. *Frontiers in Plant Science*, **2021**, 12, 700273 | 6.2 | 2 |
| 72 | Photonic paper: Multiscale assembly of reflective cellulose sheets in. *Science Advances*, **2020**, 6, | 14.3 | 8 |
| 71 | 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 |
| 70 | Polypeptide templating for designer hierarchical materials. *Nature Communications*, **2020**, 11, 351 | 17.4 | 12 |
| 69 | 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 |
| 68 | A Multilayered Edible Coating to Extend Produce Shelf Life. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 14312-14321 | 8.3 | 21 |
| 67 | Precision Delivery of Multiscale Payloads to Tissue-Specific Targets in Plants. *Advanced Science*, **2020**, 7, 1903551 | 13.6 | 18 |

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| 66 | Additive Manufacturing Approaches for Hydroxyapatite-Reinforced Composites. *Advanced Functional Materials*, **2019**, 29, 1903055 | 15.6 | 70 |
| 65 | 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 |
| 64 | Tissue-mimicking gelatin scaffolds by alginate sacrificial templates for adipose tissue engineering. *Acta Biomaterialia*, **2019**, 87, 61-75 | 10.8 | 46 |
| 63 | Engineering the Future of Silk Materials through Advanced Manufacturing. *Advanced Materials*, **2018**, 30, e1706983 | 24 | 81 |
| 62 | Silk Materials: Engineering the Future of Silk Materials through Advanced Manufacturing (Adv. Mater. 33/2018). *Advanced Materials*, **2018**, 30, 1870250 | 24 | 0 |
| 61 | 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 |
| 60 | Directed assembly of bio-inspired hierarchical materials with controlled nanofibrillar architectures. *Nature Nanotechnology*, **2017**, 12, 474-480 | 28.7 | 111 |
| 59 | Gain-Based Mechanism for pH Sensing Based on Random Lasing. *Physical Review Applied*, **2017**, 7, | 4.3 | 19 |
| 58 | 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 |
| 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 | Regenerated silk materials for functionalized silk orthopedic devices by mimicking natural processing. *Biomaterials*, **2016**, 110, 24-33 | 15.6 | 40 |
| 55 | Silk Fibroin as Edible Coating for Perishable Food Preservation. *Scientific Reports*, **2016**, 6, 25263 | 4.9 | 117 |
| 54 | 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 |
| 53 | Silk-Based Biocompatible Random Lasing. *Advanced Optical Materials*, **2016**, 4, 998-1003 | 8.1 | 66 |
| 52 | Photocrosslinking of Silk Fibroin Using Riboflavin for Ocular Prostheses. *Advanced Materials*, **2016**, 28, 2417-20 | 24 | 88 |
| 51 | Silk Fibroin: Photocrosslinking of Silk Fibroin Using Riboflavin for Ocular Prostheses (Adv. Mater. 12/2016). *Advanced Materials*, **2016**, 28, 2464-2464 | 24 | 5 |
| 50 | Eco-friendly photolithography using water-developable pure silk fibroin. *RSC Advances*, **2016**, 6, 39330-39334 | 3.7 | 33 |
| 49 | Doxorubicin loaded nanodiamond-silk spheres for fluorescence tracking and controlled drug release. *Biomedical Optics Express*, **2016**, 7, 132-47 | 3.5 | 29 |

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| 48 | 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 |
| 47 | 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 |
| 46 | Fully implantable and resorbable wireless medical devices for postsurgical infection abatement **2015**, | | 2 |
| 45 | Newly identified interfibrillar collagen crosslinking suppresses cell proliferation and remodelling. *Biomaterials*, **2015**, 54, 126-35 | 15.6 | 31 |
| 44 | Cashmere-derived keratin for device manufacturing on the micro- and nanoscale. *Journal of Materials Chemistry C*, **2015**, 3, 2783-2787 | 7.1 | 20 |
| 43 | Fluorescent Nanodiamond Silk Fibroin Spheres: Advanced Nanoscale Bioimaging Tool. *ACS Biomaterials Science and Engineering*, **2015**, 1, 1104-1113 | 5.5 | 28 |
| 42 | 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 |
| 41 | Transparent, Nanostructured Silk Fibroin Hydrogels with Tunable Mechanical Properties. *ACS Biomaterials Science and Engineering*, **2015**, 1, 964-970 | 5.5 | 39 |
| 40 | Silk fibroin hydroxyapatite composite thermal stabilisation of carbonic anhydrase. *Journal of Materials Chemistry A*, **2015**, 3, 19282-19287 | 13 | 12 |
| 39 | Fibril formation pH controls intrafibrillar collagen biomineralization in vitro and in vivo. *Biomaterials* , **2015**, 37, 252-9 | 15.6 | 33 |
| 38 | Fabrication of injectable, cellular, anisotropic collagen tissue equivalents with modular fibrillar densities. *Biomaterials*, **2015**, 37, 183-93 | 15.6 | 41 |
| 37 | Enhanced photoluminescence of Si nanocrystals-doped cellulose nanofibers by plasmonic light scattering. *Applied Physics Letters*, **2015**, 107, 041111 | 3.4 | 17 |
| 36 | Inkjet Printing of Regenerated Silk Fibroin: From Printable Forms to Printable Functions. *Advanced Materials*, **2015**, 27, 4273-9 | 24 | 143 |
| 35 | All-water-based electron-beam lithography using silk as a resist. *Nature Nanotechnology*, **2014**, 9, 306-10 | 28.7 | 195 |
| 34 | Rapid fabrication of silk films with controlled architectures via electrogelation. *Journal of Materials Chemistry B*, **2014**, 2, 4983-4987 | 7.3 | 18 |
| 33 | Synthesis of silk fibroin micro- and submicron spheres using a co-flow capillary device. *Advanced Materials*, **2014**, 26, 1105-10 | 24 | 62 |
| 32 | 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 |
| 31 | Highly tunable elastomeric silk biomaterials. *Advanced Functional Materials*, **2014**, 24, 4615-4624 | 15.6 | 265 |

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| 30 | 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 |
| 29 | Regulated fracture in tooth enamel: a nanotechnological strategy from nature. *Journal of Biomechanics*, **2014**, 47, 2444-51 | 2.9 | 8 |
| 28 | Silk: A Different Kind of Fiber Optics *Optics and Photonics News*, **2014**, 25, 28 | 1.9 | 7 |
| 27 | 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 |
| 26 | Collagen-based tubular constructs for tissue engineering applications **2014**, 589-632 | | |
| 25 | 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 |
| 24 | Trace elements can influence the physical properties of tooth enamel. *SpringerPlus*, **2013**, 2, 499 | | 42 |
| 23 | 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 |
| 22 | Determination of multiphoton absorption of silk fibroin using the Z-scan technique. *Optics Express*, **2013**, 21, 29637-42 | 3.3 | 13 |
| 21 | Mineralization of nanomaterials for bone tissue engineering **2013**, 387-416 | | |
| 20 | Silk fibroin derived polypeptide-induced biomineralization of collagen. *Biomaterials*, **2012**, 33, 102-8 | 15.6 | 97 |
| 19 | Collagen-reinforced electrospun silk fibroin tubular construct as small calibre vascular graft. *Macromolecular Bioscience*, **2012**, 12, 1566-74 | 5.5 | 57 |
| 18 | Regulation of enamel hardness by its crystallographic dimensions. *Acta Biomaterialia*, **2012**, 8, 3400-10 | 10.8 | 46 |
| 17 | Stabilization of Amorphous Calcium Carbonate with Nanofibrillar Biopolymers. *Advanced Functional Materials*, **2012**, 22, 3460-3469 | 15.6 | 22 |
| 16 | Immediate production of a tubular dense collagen construct with bioinspired mechanical properties. *Acta Biomaterialia*, **2012**, 8, 1813-25 | 10.8 | 51 |
| 15 | The role of enamel crystallography on tooth shade. *Journal of Dentistry*, **2011**, 39 Suppl 3, e3-10 | 4.8 | 40 |
| 14 | 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 |
| 13 | Mesenchymal stem cell-seeded multilayered dense collagen-silk fibroin hybrid for tissue engineering applications. *Biotechnology Journal*, **2011**, 6, 1198-207 | 5.6 | 25 |

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| 12 | 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 |
| 11 | Collagen gel fibrillar density dictates the extent of mineralizationin vitro. *Soft Matter*, **2011**, 7, 9898 | 3.6 | 32 |
| 10 | Osteoid-mimicking dense collagen/chitosan hybrid gels. *Biomacromolecules*, **2011**, 12, 2946-56 | 6.9 | 49 |
| 9 | Real time responses of fibroblasts to plastically compressed fibrillar collagen hydrogels. *Biomaterials*, **2011**, 32, 4761-72 | 15.6 | 38 |
| 8 | 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 |
| 7 | Three-dimensional mineralization of dense nanofibrillar collagen-bioglass hybrid scaffolds. *Biomacromolecules*, **2010**, 11, 1470-9 | 6.9 | 127 |
| 6 | Modulation of polycaprolactone composite properties through incorporation of mixed phosphate glass formulations. *Acta Biomaterialia*, **2010**, 6, 3157-68 | 10.8 | 21 |
| 5 | Compliant electrospun silk fibroin tubes for small vessel bypass grafting. *Acta Biomaterialia*, **2010**, 6, 4019-26 | 10.8 | 135 |
| 4 | Electrospun silk fibroin tubular matrixes for small vessel bypass grafting. *Materials Technology*, **2009**, 24, 52-57 | 2.1 | 12 |
| 3 | Electrospun Silk Fibroin Mats for Tissue Engineering. *Engineering in Life Sciences*, **2008**, 8, 219-225 | 3.4 | 59 |
| 2 | Programmable design of seed coating function induces water-stress tolerance in semi-arid regions. *Nature Food*, | 14.4 | 4 |
| 1 | Biomaterials Technology for AgroFood Resilience. *Advanced Functional Materials*,2201930 | 15.6 | 2 |