Rosalyn D Abbott

List of Publications by Citations

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225 papers	31,516 citations	81 h-index	176 g-index
233 ext. papers	35,033 ext. citations	9.7 avg, IF	7.43 L-index

#	Paper	IF	Citations
225	Silk-based biomaterials. *Biomaterials*, **2003**, 24, 401-16	15.6	2621
224	Silk as a Biomaterial. *Progress in Polymer Science*, **2007**, 32, 991-1007	29.6	1842
223	Materials fabrication from Bombyx mori silk fibroin. *Nature Protocols*, **2011**, 6, 1612-31	18.8	1752
222	Mechanism of silk processing in insects and spiders. *Nature*, **2003**, 424, 1057-61	50.4	1064
221	New opportunities for an ancient material. *Science*, **2010**, 329, 528-31	33.3	1016
220	Three-dimensional aqueous-derived biomaterial scaffolds from silk fibroin. *Biomaterials*, **2005**, 26, 2775-85	15.6	793
219	Stem cell-based tissue engineering with silk biomaterials. *Biomaterials*, **2006**, 27, 6064-82	15.6	785
218	Porous 3-D scaffolds from regenerated silk fibroin. *Biomacromolecules*, **2004**, 5, 718-26	6.9	730
217	Silk matrix for tissue engineered anterior cruciate ligaments. *Biomaterials*, **2002**, 23, 4131-41	15.6	726
216	Functionalized silk-based biomaterials for bone formation. *Journal of Biomedical Materials Research Part B*, **2001**, 54, 139-48		662
215	The inflammatory responses to silk films in vitro and in vivo. *Biomaterials*, **2005**, 26, 147-55	15.6	636
214	Electrospinning Bombyx mori silk with poly(ethylene oxide). *Biomacromolecules*, **2002**, 3, 1233-9	6.9	623
213	In vitro degradation of silk fibroin. *Biomaterials*, **2005**, 26, 3385-93	15.6	577
212	In vivo degradation of three-dimensional silk fibroin scaffolds. *Biomaterials*, **2008**, 29, 3415-28	15.6	573
211	Sonication-induced gelation of silk fibroin for cell encapsulation. *Biomaterials*, **2008**, 29, 1054-64	15.6	492
210	Water-insoluble silk films with silk I structure. *Acta Biomaterialia*, **2010**, 6, 1380-7	10.8	450
209	Macrophage responses to silk. *Biomaterials*, **2003**, 24, 3079-85	15.6	445

208	Regulation of silk material structure by temperature-controlled water vapor annealing. *Biomacromolecules*, **2011**, 12, 1686-96	6.9	434
207	In vitro cartilage tissue engineering with 3D porous aqueous-derived silk scaffolds and mesenchymal stem cells. *Biomaterials*, **2005**, 26, 7082-94	15.6	376
206	Cartilage tissue engineering with silk scaffolds and human articular chondrocytes. *Biomaterials*, **2006**, 27, 4434-42	15.6	356
205	Silk nanospheres and microspheres from silk/pva blend films for drug delivery. *Biomaterials*, **2010**, 31, 1025-35	15.6	321
204	Engineering adipose-like tissue in vitro and in vivo utilizing human bone marrow and adipose-derived mesenchymal stem cells with silk fibroin 3D scaffolds. *Biomaterials*, **2007**, 28, 5280-90	15.6	309
203	High-strength silk protein scaffolds for bone repair. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 7699-704	11.5	288
202	Silk-based delivery systems of bioactive molecules. *Advanced Drug Delivery Reviews*, **2010**, 62, 1497-508	18.5	282
201	Vortex-induced injectable silk fibroin hydrogels. *Biophysical Journal*, **2009**, 97, 2044-50	2.9	271
200	Control of in vitro tissue-engineered bone-like structures using human mesenchymal stem cells and porous silk scaffolds. *Biomaterials*, **2007**, 28, 1152-62	15.6	270
199	In vivo bioresponses to silk proteins. *Biomaterials*, **2015**, 71, 145-157	15.6	269
198	Highly tunable elastomeric silk biomaterials. *Advanced Functional Materials*, **2014**, 24, 4615-4624	15.6	265
197	Biocompatible Silk Printed Optical Waveguides. *Advanced Materials*, **2009**, 21, 2411-2415	24	260
196	Influence of macroporous protein scaffolds on bone tissue engineering from bone marrow stem cells. *Biomaterials*, **2005**, 26, 4442-52	15.6	260
195	Silk microspheres for encapsulation and controlled release. *Journal of Controlled Release*, **2007**, 117, 360-70	11.7	251
194	Bone tissue engineering with premineralized silk scaffolds. *Bone*, **2008**, 42, 1226-34	4.7	245
193	Spider silks and their applications. *Trends in Biotechnology*, **2008**, 26, 244-51	15.1	238
192	Mechanical and thermal properties of dragline silk from the spider Nephila clavipes. *Polymers for Advanced Technologies*, **1994**, 5, 401-410	3.2	234
191	Construction, cloning, and expression of synthetic genes encoding spider dragline silk. *Biochemistry* , **1995**, 34, 10879-85	3.2	232

190	Silk fibroin microtubes for blood vessel engineering. *Biomaterials*, **2007**, 28, 5271-9	15.6	226
189	Mapping domain structures in silks from insects and spiders related to protein assembly. *Journal of Molecular Biology*, **2004**, 335, 27-40	6.5	220
188	Silk-based biomaterials for sustained drug delivery. *Journal of Controlled Release*, **2014**, 190, 381-97	11.7	219
187	Direct-Write Assembly of Microperiodic Silk Fibroin Scaffolds for Tissue Engineering Applications. *Advanced Functional Materials*, **2008**, 18, 1883-1889	15.6	219
186	Functionalized silk biomaterials for wound healing. *Advanced Healthcare Materials*, **2013**, 2, 206-17	10.1	216
185	Silk fibroin biomaterials for controlled release drug delivery. *Expert Opinion on Drug Delivery*, **2011**, 8, 797-811	8	208
184	Silkworm silk-based materials and devices generated using bio-nanotechnology. *Chemical Society Reviews*, **2018**, 47, 6486-6504	58.5	206
183	Bioengineered functional brain-like cortical tissue. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13811-6	11.5	203
182	Mechanism of enzymatic degradation of beta-sheet crystals. *Biomaterials*, **2010**, 31, 2926-33	15.6	192
181	Adipose tissue engineering for soft tissue regeneration. *Tissue Engineering - Part B: Reviews*, **2010**, 16, 413-26	7.9	176
180	RGD-functionalized bioengineered spider dragline silk biomaterial. *Biomacromolecules*, **2006**, 7, 3139-45	6.9	170
179	Cartilage-like tissue engineering using silk scaffolds and mesenchymal stem cells. *Tissue Engineering*, **2006**, 12, 2729-38		159
178	Quantitative metabolic imaging using endogenous fluorescence to detect stem cell differentiation. *Scientific Reports*, **2013**, 3, 3432	4.9	156
177	Structure-function-property-design interplay in biopolymers: spider silk. *Acta Biomaterialia*, **2014**, 10, 1612-26	10.8	151
176	Nanolayer biomaterial coatings of silk fibroin for controlled release. *Journal of Controlled Release*, **2007**, 121, 190-9	11.7	150
175	Protein-based block copolymers. *Biomacromolecules*, **2011**, 12, 269-89	6.9	146
174	Inkjet Printing of Regenerated Silk Fibroin: From Printable Forms to Printable Functions. *Advanced Materials*, **2015**, 27, 4273-9	24	143
173	3D Bioprinting of Self-Standing Silk-Based Bioink. *Advanced Healthcare Materials*, **2018**, 7, e1701026	10.1	140

172	Stabilization of enzymes in silk films. *Biomacromolecules*, **2009**, 10, 1032-42	6.9	140
171	Silk based bioinks for soft tissue reconstruction using 3-dimensional (3D) printing with in vitro and in vivo assessments. *Biomaterials*, **2017**, 117, 105-115	15.6	139
170	Silk Hydrogels as Soft Substrates for Neural Tissue Engineering. *Advanced Functional Materials*, **2013**, 23, 5140-5149	15.6	132
169	Stabilization of vaccines and antibiotics in silk and eliminating the cold chain. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 11981-6	11.5	125
168	Recombinant DNA production of spider silk proteins. *Microbial Biotechnology*, **2013**, 6, 651-63	6.3	123
167	Lyophilized Silk Sponges: A Versatile Biomaterial Platform for Soft Tissue Engineering. *ACS Biomaterials Science and Engineering*, **2015**, 1, 260-270	5.5	120
166	Bone regeneration on macroporous aqueous-derived silk 3-D scaffolds. *Macromolecular Bioscience*, **2007**, 7, 643-55	5.5	118
165	Direct-write assembly of 3D silk/hydroxyapatite scaffolds for bone co-cultures. *Advanced Healthcare Materials*, **2012**, 1, 729-35	10.1	116
164	Gel spinning of silk tubes for tissue engineering. *Biomaterials*, **2008**, 29, 4650-7	15.6	113
163	Stabilization and release of enzymes from silk films. *Macromolecular Bioscience*, **2010**, 10, 359-68	5.5	112
162	Relationships between degradability of silk scaffolds and osteogenesis. *Biomaterials*, **2010**, 31, 6162-72	15.6	112
161	In vitro 3D model for human vascularized adipose tissue. *Tissue Engineering - Part A*, **2009**, 15, 2227-36	3.9	107
160	Impact of silk biomaterial structure on proteolysis. *Acta Biomaterialia*, **2015**, 11, 212-21	10.8	104
159	Silk fibroin electrogelation mechanisms. *Acta Biomaterialia*, **2011**, 7, 2394-400	10.8	104
158	Robust bioengineered 3D functional human intestinal epithelium. *Scientific Reports*, **2015**, 5, 13708	4.9	103
157	Bioengineered silk protein-based gene delivery systems. *Biomaterials*, **2009**, 30, 5775-84	15.6	103
156	Self-assembly of genetically engineered spider silk block copolymers. *Biomacromolecules*, **2009**, 10, 229-36	6.9	102
155	A silk-based scaffold platform with tunable architecture for engineering critically-sized tissue constructs. *Biomaterials*, **2012**, 33, 9214-24	15.6	101

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147	Bioengineered 3D human kidney tissue, a platform for the determination of nephrotoxicity. *PLoS ONE*, **2013**, 8, e59219	3.7	86
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145	Gene delivery mediated by recombinant silk proteins containing cationic and cell binding motifs. *Journal of Controlled Release*, **2010**, 146, 136-43	11.7	81
144	Regeneration of high-quality silk fibroin fiber by wet spinning from CaCl2-formic acid solvent. *Acta Biomaterialia*, **2015**, 12, 139-145	10.8	80
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142	In vitro 3D corneal tissue model with epithelium, stroma, and innervation. *Biomaterials*, **2017**, 112, 1-9	15.6	75
141	Tissue-engineered three-dimensional in vitro models for normal and diseased kidney. *Tissue Engineering - Part A*, **2010**, 16, 2821-31	3.9	75
140	Optical spectroscopy and imaging for the noninvasive evaluation of engineered tissues. *Tissue Engineering - Part B: Reviews*, **2008**, 14, 321-40	7.9	75
139	Dityrosine Cross-Linking in Designing Biomaterials. *ACS Biomaterials Science and Engineering*, **2016**, 2, 2108-2121	5.5	74
138	In vitro bioengineered model of cortical brain tissue. *Nature Protocols*, **2015**, 10, 1362-73	18.8	71
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133	Thermoplastic moulding of regenerated silk. *Nature Materials*, **2020**, 19, 102-108	27	68
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130	Silk I and Silk II studied by fast scanning calorimetry. *Acta Biomaterialia*, **2017**, 55, 323-332	10.8	64
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128	Silk-Its Mysteries, How It Is Made, and How It Is Used. *ACS Biomaterials Science and Engineering*, **2015**, 1, 864-876	5.5	63
127	Tissue-engineered kidney disease models. *Advanced Drug Delivery Reviews*, **2014**, 69-70, 67-80	18.5	63
126	Inkjet printing of silk nest arrays for cell hosting. *Biomacromolecules*, **2014**, 15, 1428-35	6.9	62
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123	Bladder tissue regeneration using acellular bi-layer silk scaffolds in a large animal model of augmentation cystoplasty. *Biomaterials*, **2013**, 34, 8681-9	15.6	61
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120	Characterization of metabolic changes associated with the functional development of 3D engineered tissues by non-invasive, dynamic measurement of individual cell redox ratios. *Biomaterials*, **2012**, 33, 5341-8	15.6	59
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118	The performance of silk scaffolds in a rat model of augmentation cystoplasty. *Biomaterials*, **2013**, 34, 4758-65	15.6	57
117	Engineered cell and tissue models of pulmonary fibrosis. *Advanced Drug Delivery Reviews*, **2018**, 129, 78-94	18.5	56
116	Regenerative potential of TGF + Dex and notochordal cell conditioned media on degenerated human intervertebral disc cells. *Journal of Orthopaedic Research*, **2012**, 30, 482-8	3.8	55
115	Soft tissue augmentation using silk gels: an in vitro and in vivo study. *Journal of Periodontology*, **2009**, 80, 1852-8	4.6	54
114	The Use of Silk as a Scaffold for Mature, Sustainable Unilocular Adipose 3D Tissue Engineered Systems. *Advanced Healthcare Materials*, **2016**, 5, 1667-77	10.1	53
113	3D extracellular matrix microenvironment in bioengineered tissue models of primary pediatric and adult brain tumors. *Nature Communications*, **2019**, 10, 4529	17.4	51
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110	Mechanical improvements to reinforced porous silk scaffolds. *Journal of Biomedical Materials Research - Part A*, **2011**, 99, 16-28	5.4	51
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106	Tuning chemical and physical cross-links in silk electrogels for morphological analysis and mechanical reinforcement. *Biomacromolecules*, **2013**, 14, 2629-35	6.9	48
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103	Impact of sterilization on the enzymatic degradation and mechanical properties of silk biomaterials. *Macromolecular Bioscience*, **2014**, 14, 257-69	5.5	47
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98	Ultrasound Sonication Effects on Silk Fibroin Protein. *Macromolecular Materials and Engineering*, **2013**, 298, 1201-1208	3.9	43
97	A silk-based encapsulation platform for pancreatic islet transplantation improves islet function in vivo. *Journal of Tissue Engineering and Regenerative Medicine*, **2017**, 11, 887-895	4.4	40
96	Sustained volume retention in vivo with adipocyte and lipoaspirate seeded silk scaffolds. *Biomaterials*, **2013**, 34, 2960-8	15.6	37
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94	3D biomaterial matrix to support long term, full thickness, immuno-competent human skin equivalents with nervous system components. *Biomaterials*, **2019**, 198, 194-203	15.6	36
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91	Purification and cytotoxicity of tag-free bioengineered spider silk proteins. *Journal of Biomedical Materials Research - Part A*, **2013**, 101, 456-64	5.4	32
90	Shape Memory Silk Protein Sponges for Minimally Invasive Tissue Regeneration. *Advanced Healthcare Materials*, **2017**, 6, 1600762	10.1	32
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88	Engineering Silk Materials: From Natural Spinning to Artificial Processing. *Applied Physics Reviews*, **2020**, 7,	17.3	30
87	Implantable chemotherapy-loaded silk protein materials for neuroblastoma treatment. *International Journal of Cancer*, **2017**, 140, 726-735	7.5	30
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83	Fabrication of Silk Scaffolds with Nanomicroscaled Structures and Tunable Stiffness. *Biomacromolecules*, **2017**, 18, 2073-2079	6.9	26

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81	Acellular bi-layer silk fibroin scaffolds support functional tissue regeneration in a rat model of onlay esophagoplasty. *Biomaterials*, **2015**, 53, 149-59	15.6	25
80	Quantitative characterization of mineralized silk film remodeling during long-term osteoblast-osteoclast co-culture. *Biomaterials*, **2014**, 35, 3794-802	15.6	25
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77	Niclosamide rescues microcephaly in a humanized model of Zika infection using human induced neural stem cells. *Biology Open*, **2018**, 7,	2.2	24
76	Localized Immunomodulatory Silk Macrocapsules for Islet-like Spheroid Formation and Sustained Insulin Production. *ACS Biomaterials Science and Engineering*, **2017**, 3, 2443-2456	5.5	24
75	Stress and matrix-responsive cytoskeletal remodeling in fibroblasts. *Journal of Cellular Physiology*, **2013**, 228, 50-7	7	24
74	Functional maturation of human neural stem cells in a 3D bioengineered brain model enriched with fetal brain-derived matrix. *Scientific Reports*, **2019**, 9, 17874	4.9	24
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69	Predicting Silk Fiber Mechanical Properties through Multiscale Simulation and Protein Design. *ACS Biomaterials Science and Engineering*, **2017**, 3, 1542-1556	5.5	22
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66	Bioengineered Tissue Model of Fibroblast Activation for Modeling Pulmonary Fibrosis. *ACS Biomaterials Science and Engineering*, **2019**, 5, 2417-2429	5.5	21
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64	Recent Advances in 3D Printing with Protein-Based Inks. *Progress in Polymer Science*, **2021**, 115, 101375-101375	19.6	20
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60	Microscopic considerations for optimizing silk biomaterials. *Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology*, **2019**, 11, e1534	9.2	19
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53	Adipose Tissue Fibrosis: Mechanisms, Models, and Importance. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	17
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48	Variability in responses observed in human white adipose tissue models. *Journal of Tissue Engineering and Regenerative Medicine*, **2018**, 12, 840-847	4.4	14
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43	Rapid prototyped sutureless anastomosis device from self-curing silk bio-ink. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2015**, 103, 1333-43	3.5	12
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40	Flexible Water-Absorbing Silk-Fibroin Biomaterial Sponges with Unique Pore Structure for Tissue Engineering. *ACS Biomaterials Science and Engineering*, **2020**, 6, 1641-1649	5.5	11
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