

Michael V Sefton

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131 papers	5,004 citations	34 h-index	68 g-index
139 ext. papers	5,508 ext. citations	8.1 avg, IF	5.93 L-index

#	Paper	IF	Citations
131	Biomaterial-associated thrombosis: roles of coagulation factors, complement, platelets and leukocytes. <i>Biomaterials</i> , 2004 , 25, 5681-703	15.6	993
130	Biodegradable scaffold with built-in vasculature for organ-on-a-chip engineering and direct surgical anastomosis. <i>Nature Materials</i> , 2016 , 15, 669-78	27	354
129	Vascularized organoid engineered by modular assembly enables blood perfusion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 11461-6	11.5	313
128	Endotoxin: the uninvited guest. <i>Biomaterials</i> , 2005 , 26, 6811-7	15.6	275
127	The influence of biomaterials on endothelial cell thrombogenicity. <i>Biomaterials</i> , 2007 , 28, 2547-71	15.6	191
126	Microencapsulation of mammalian cells in a HEMA-MMA copolymer: effects on capsule morphology and permeability. <i>Journal of Biomedical Materials Research Part B</i> , 1990 , 24, 1241-62		93
125	Does polyethylene oxide possess a low thrombogenicity?. <i>Journal of Biomaterials Science, Polymer Edition</i> , 1993 , 4, 381-400	3.5	91
124	Properties of a heparin-poly(vinyl alcohol) hydrogel coating. <i>Journal of Biomedical Materials Research Part B</i> , 1983 , 17, 359-73		82
123	Cell and biomolecule delivery for tissue repair and regeneration in the central nervous system. <i>Journal of Controlled Release</i> , 2014 , 190, 219-27	11.7	79
122	Semi-synthetic collagen/poloxamine matrices for tissue engineering. <i>Biomaterials</i> , 2005 , 26, 7425-35	15.6	77
121	Modular tissue engineering for the vascularization of subcutaneously transplanted pancreatic islets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 9337-9342	11.5	69
120	Endothelialized biomaterials for tissue engineering applications in vivo. <i>Trends in Biotechnology</i> , 2011 , 29, 379-87	15.1	68
119	Microencapsulated human hepatoma (HepG2) cells: in vitro growth and protein release. <i>Journal of Biomedical Materials Research Part B</i> , 1993 , 27, 1213-24		62
118	Immobilization of poly(ethylene glycol) onto a poly(vinyl alcohol) hydrogel: 2. Evaluation of thrombogenicity. <i>Journal of Biomedical Materials Research Part B</i> , 1993 , 27, 1383-91		62
117	Effect of heparin-PVA hydrogel on platelets in a chronic canine arterio-venous shunt. <i>Journal of Biomedical Materials Research Part B</i> , 1989 , 23, 417-41		61
116	Microencapsulation of mammalian cells in a water-insoluble polyacrylate by coextrusion and interfacial precipitation. <i>Biotechnology and Bioengineering</i> , 1987 , 29, 1135-43	4.9	58
115	Heparinized styrene-butadiene-styrene elastomers. <i>Journal of Biomedical Materials Research Part B</i> , 1979 , 13, 347-64		56

114	Does surface chemistry affect thrombogenicity of surface modified polymers?. <i>Journal of Biomedical Materials Research Part B</i> , 2001 , 55, 447-59		55
113	Fabrication of cell-containing gel modules to assemble modular tissue-engineered constructs [corrected]. <i>Nature Protocols</i> , 2006 , 1, 2963-9	18.8	54
112	Dopamine secretion by PC12 cells microencapsulated in a hydroxyethyl methacrylate--methyl methacrylate copolymer. <i>Biomaterials</i> , 1996 , 17, 267-75	15.6	52
111	The thrombogenicity of human umbilical vein endothelial cell seeded collagen modules. <i>Biomaterials</i> , 2008 , 29, 2453-63	15.6	49
110	Leukocyte activation and leukocyte procoagulant activities after blood contact with polystyrene and polyethylene glycol-immobilized polystyrene beads. <i>Translational Research</i> , 2001 , 137, 345-55		48
109	A modular approach to cardiac tissue engineering. <i>Tissue Engineering - Part A</i> , 2010 , 16, 3207-18	3.9	45
108	Endothelial cell behaviour within a microfluidic mimic of the flow channels of a modular tissue engineered construct. <i>Biomedical Microdevices</i> , 2011 , 13, 69-87	3.7	43
107	Cotransplantation of adipose-derived mesenchymal stromal cells and endothelial cells in a modular construct drives vascularization in SCID/bg mice. <i>Tissue Engineering - Part A</i> , 2012 , 18, 1628-41	3.9	42
106	Design and fabrication of sub-mm-sized modules containing encapsulated cells for modular tissue engineering. <i>Tissue Engineering</i> , 2007 , 13, 1069-78		42
105	Viability and protein secretion from human Hepatoma (HepG2) cells encapsulated in 400- μ m polyacrylate microcapsules by submerged nozzle-liquid jet extrusion. <i>Biotechnology and Bioengineering</i> , 1994 , 44, 1199-204	4.9	40
104	Bone marrow-derived mesenchymal stromal cells enhance chimeric vessel development driven by endothelial cell-coated microtissues. <i>Tissue Engineering - Part A</i> , 2012 , 18, 285-94	3.9	38
103	Methylation of poloxamine for enhanced cell adhesion. <i>Biomacromolecules</i> , 2006 , 7, 331-8	6.9	37
102	Modular tissue engineering: fabrication of a gelatin-based construct. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2007 , 1, 136-45	4.4	36
101	Morphological assessment of hepatoma cells (HepG2) microencapsulated in a HEMA-MMA copolymer with and without Matrigel. <i>Journal of Biomedical Materials Research Part B</i> , 1992 , 26, 1401-18		36
100	An Artificial Endocrine Pancreas Containing Cultured Islets of Langerhans. <i>Artificial Organs</i> , 2008 , 4, 275-288		35
99	Microencapsulation of normal and transfected L929 fibroblasts in a HEMA-MMA copolymer. <i>Tissue Engineering</i> , 2000 , 6, 139-49		35
98	Material-induced up-regulation of leukocyte CD11b during whole blood contact: material differences and a role for complement. <i>Journal of Biomedical Materials Research Part B</i> , 1996 , 32, 29-35		34
97	The blood compatibility challenge. Part 3: Material associated activation of blood cascades and cells. <i>Acta Biomaterialia</i> , 2019 , 94, 25-32	10.8	33

96	Anti-microRNA-378a enhances wound healing process by upregulating integrin beta-3 and vimentin. <i>Molecular Therapy</i> , 2014 , 22, 1839-50	11.7	33
95	Functionalized scaffold-mediated interleukin 10 gene delivery significantly improves survival rates of stem cells in vivo. <i>Molecular Therapy</i> , 2011 , 19, 969-78	11.7	33
94	HEMA/MMMA microcapsule implants in hemiparkinsonian rat brain: biocompatibility assessment using [3H]PK11195 as a marker for gliosis. <i>Biomaterials</i> , 1998 , 19, 829-37	15.6	33
93	Parallel flow arteriovenous shunt for the ex vivo evaluation of heparinized materials. <i>Journal of Biomedical Materials Research Part B</i> , 1985 , 19, 161-78		33
92	In vitro platelet interactions with a heparin-polyvinyl alcohol hydrogel. <i>Journal of Biomedical Materials Research Part B</i> , 1989 , 23, 399-415		32
91	Effectiveness factor and diffusion limitations in collagen gel modules containing HepG2 cells. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2011 , 5, 119-29	4.4	30
90	Acquisition of a Unique Mesenchymal Precursor-like Blastema State Underlies Successful Adult Mammalian Digit Tip Regeneration. <i>Developmental Cell</i> , 2020 , 52, 509-524.e9	10.2	30
89	Application of an endothelialized modular construct for islet transplantation in syngeneic and allogeneic immunosuppressed rat models. <i>Tissue Engineering - Part A</i> , 2011 , 17, 2005-15	3.9	29
88	Poloxamine hydrogels with a quaternary ammonium modification to improve cell attachment. <i>Journal of Biomedical Materials Research - Part A</i> , 2005 , 75, 295-307	5.4	29
87	Toward an in vitro vasculature: differentiation of mesenchymal stromal cells within an endothelial cell-seeded modular construct in a microfluidic flow chamber. <i>Tissue Engineering - Part A</i> , 2012 , 18, 744-56	3.9	28
86	Flow cytometric analysis of material-induced platelet activation in a canine model: elevated microparticle levels and reduced platelet life span. <i>Journal of Biomedical Materials Research Part B</i> , 1997 , 37, 176-81		28
85	Metabolic activity of CHO fibroblasts in HEMA-MMA microcapsules. <i>Biotechnology and Bioengineering</i> , 1992 , 39, 672-8	4.9	28
84	Microencapsulation of human fibroblasts in a water-insoluble polyacrylate. <i>Biotechnology and Bioengineering</i> , 1987 , 30, 954-62	4.9	28
83	A novel high-speed production process to create modular components for the bottom-up assembly of large-scale tissue-engineered constructs. <i>Advanced Healthcare Materials</i> , 2015 , 4, 113-20	10.1	27
82	Chimeric vessel tissue engineering driven by endothelialized modules in immunosuppressed Sprague-Dawley rats. <i>Tissue Engineering - Part A</i> , 2011 , 17, 151-60	3.9	27
81	Collagen/poloxamine hydrogels: cytocompatibility of embedded HepG2 cells and surface-attached endothelial cells. <i>Tissue Engineering</i> , 2005 , 11, 1807-16		27
80	Preparation and thrombogenicity of alkylated polyvinyl alcohol coated tubing. <i>Journal of Biomedical Materials Research Part B</i> , 1992 , 26, 577-92		27
79	The effect of a hydroxamic acid-containing polymer on active matrix metalloproteinases. <i>Biomaterials</i> , 2009 , 30, 1890-7	15.6	26

78	Perfusion and characterization of an endothelial cell-seeded modular tissue engineered construct formed in a microfluidic remodeling chamber. <i>Biomaterials</i> , 2010 , 31, 8254-61	15.6	26
77	Design criteria for a modular tissue-engineered construct. <i>Tissue Engineering</i> , 2007 , 13, 1079-89		25
76	Injectable and inherently vascularizing semi-interpenetrating polymer network for delivering cells to the subcutaneous space. <i>Biomaterials</i> , 2017 , 131, 27-35	15.6	24
75	A preliminary study of the effect of poly(methacrylic acid-co-methyl methacrylate) beads on angiogenesis in rodent skin grafts and the quality of the panniculus carnosus. <i>Plastic and Reconstructive Surgery</i> , 2008 , 122, 1361-1370	2.7	24
74	Permeability of a heparin-polyvinyl alcohol hydrogel to thrombin and antithrombin III. <i>Journal of Biomedical Materials Research Part B</i> , 1988 , 22, 673-85		24
73	The expression of sonic hedgehog in diabetic wounds following treatment with poly(methacrylic acid-co-methyl methacrylate) beads. <i>Biomaterials</i> , 2012 , 33, 5297-307	15.6	23
72	Effect of methacrylic acid beads on the sonic hedgehog signaling pathway and macrophage polarization in a subcutaneous injection mouse model. <i>Biomaterials</i> , 2016 , 98, 203-14	15.6	23
71	Conformal coating of small particles and cell aggregates at a liquid-liquid interface. <i>Annals of the New York Academy of Sciences</i> , 1999 , 875, 126-34	6.5	22
70	The role of insulin growth factor-1 on the vascular regenerative effect of MAA coated disks and macrophage-endothelial cell crosstalk. <i>Biomaterials</i> , 2017 , 144, 199-210	15.6	21
69	The profile of adsorbed plasma and serum proteins on methacrylic acid copolymer beads: Effect on complement activation. <i>Biomaterials</i> , 2017 , 118, 74-83	15.6	21
68	Injectable and degradable methacrylic acid hydrogel alters macrophage response in skeletal muscle. <i>Biomaterials</i> , 2019 , 223, 119477	15.6	20
67	On the mechanism of poly(methacrylic acid -co- methyl methacrylate)-induced angiogenesis: gene expression analysis of dTHP-1 cells. <i>Biomaterials</i> , 2011 , 32, 8957-67	15.6	20
66	Poly(butyl methacrylate-co-methacrylic acid) tissue engineering scaffold with pro-angiogenic potential in vivo. <i>Journal of Biomedical Materials Research - Part A</i> , 2007 , 82, 265-73	5.4	20
65	Interpenetrating Alginate-Collagen Polymer Network Microspheres for Modular Tissue Engineering. <i>ACS Biomaterials Science and Engineering</i> , 2018 , 4, 3704-3712	5.5	19
64	Endothelialized collagen based pseudo-islets enables tuneable subcutaneous diabetes therapy. <i>Biomaterials</i> , 2020 , 232, 119710	15.6	19
63	Del-1 overexpression in endothelial cells increases vascular density in tissue-engineered implants containing endothelial cells and adipose-derived mesenchymal stromal cells. <i>Tissue Engineering - Part A</i> , 2014 , 20, 1235-52	3.9	18
62	Tissue factor and thrombomodulin expression on endothelial cell-seeded collagen modules for tissue engineering. <i>Journal of Biomedical Materials Research - Part A</i> , 2007 , 80, 497-504	5.4	18
61	Fate of Thrombin and Thrombin-Antithrombin-III Complex Adsorbed to a Heparinized Biomaterial: Analysis of the Enzyme-Inhibitor Complexes Displaced by Plasma. <i>Thrombosis and Haemostasis</i> , 1983 , 50, 873-877	7	16

60	Identification of Drugs that Regulate Dermal Stem Cells and Enhance Skin Repair. <i>Stem Cell Reports</i> , 2016 , 6, 74-84	8	14
59	Structure of styreneButadieneEtyrene block copolymers by diffusion analysis. <i>Journal of Polymer Science, Polymer Physics Edition</i> , 1977 , 15, 1927-1935		14
58	Tumor necrosis factor (TNFalpha) production by rat peritoneal macrophages is not polyacrylate surface-chemistry dependent. <i>Journal of Biomedical Materials Research Part B</i> , 1999 , 46, 324-30		13
57	Measurement of the rate of thrombin production in human plasma in contact with different materials. <i>Journal of Biomedical Materials Research Part B</i> , 1992 , 26, 675-93		12
56	The effect of methacrylic acid in smooth coatings on dTHP1 and HUVEC gene expression. <i>Biomaterials Science</i> , 2014 , 2, 1768-1778	7.4	11
55	Unbiased phosphoproteomic method identifies the initial effects of a methacrylic acid copolymer on macrophages. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 10673-8	11.5	10
54	A poloxamine-polylysine acrylate scaffold for modular tissue engineering. <i>Journal of Biomaterials Science, Polymer Edition</i> , 2011 , 22, 2515-28	3.5	10
53	Effect of mouse VEGF164 on the viability of hydroxyethyl methacrylate-methyl methacrylate-microencapsulated cells in vivo: bioluminescence imaging. <i>Journal of Biomedical Materials Research - Part A</i> , 2008 , 87, 321-31	5.4	10
52	Functional considerations in tissue-engineering whole organs. <i>Annals of the New York Academy of Sciences</i> , 2002 , 961, 198-200	6.5	10
51	Methacrylic acid copolymer coating of polypropylene mesh chamber improves subcutaneous islet engraftment. <i>Biomaterials</i> , 2020 , 259, 120324	15.6	10
50	Some aspects of the host response to methacrylic acid containing beads in a mouse air pouch. <i>Journal of Biomedical Materials Research - Part A</i> , 2012 , 100, 2054-62	5.4	9
49	Amidine surface modification of poly(acrylonitrile-co-vinyl chloride) reduces platelet adhesion. <i>Journal of Biomedical Materials Research - Part A</i> , 2009 , 89, 780-90	5.4	9
48	Thrombin and albumin adsorption to PVA and heparin-PVA hydrogels. 2: Competition and displacement. <i>Journal of Biomedical Materials Research Part B</i> , 1993 , 27, 89-95		9
47	Blood, guts and chemical engineering. <i>Canadian Journal of Chemical Engineering</i> , 1989 , 67, 705-712	2.3	9
46	Absorption of benzene by open-cell polyurethane foams. <i>Journal of Applied Polymer Science</i> , 1980 , 25, 829-839	2.9	9
45	IL-10 secretion increases signal persistence of HEMA-MMA-microencapsulated luciferase-modified CHO fibroblasts in mice. <i>Tissue Engineering - Part A</i> , 2009 , 15, 127-36	3.9	8
44	Patterning collagen/poloxamine-methacrylate hydrogels for tissue-engineering-inspired microfluidic and laser lithography applications. <i>Journal of Biomaterials Science, Polymer Edition</i> , 2011 , 22, 2499-514	3.5	8
43	Patency of heparinized SBS shunts at high shear rates. <i>Biomaterials, Medical Devices, and Artificial Organs</i> , 1981 , 9, 127-42		8

42	Fate of modular cardiac tissue constructs in a syngeneic rat model. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2015 , 9, 1247-58	4.4	7
41	Collagen modules for in situ delivery of mesenchymal stromal cell-derived endothelial cells for improved angiogenesis. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2016 , 10, 363-73	4.4	7
40	In vivo remodelling of vascularizing engineered tissues. <i>Annals of Biomedical Engineering</i> , 2015 , 43, 1189-200	4.7	7
39	Poly(methacrylic acid-co-methyl methacrylate) beads promote vascularization and wound repair in diabetic mice. <i>Journal of Biomedical Materials Research - Part A</i> , 2010 , 93, 484-92	5.4	7
38	A scalable device-less biomaterial approach for subcutaneous islet transplantation. <i>Biomaterials</i> , 2021 , 269, 120499	15.6	7
37	Shh pathway in wounds in non-diabetic Shh-Cre-eGFP/Ptch1-LacZ mice treated with MAA beads. <i>Biomaterials</i> , 2016 , 102, 198-208	15.6	6
36	Methacrylic Acid Copolymer Coating Enhances Constructive Remodeling of Polypropylene Mesh by Increasing the Vascular Response. <i>Advanced Healthcare Materials</i> , 2019 , 8, e1900667	10.1	6
35	Fabrication of micro-tissues using modules of collagen gel containing cells. <i>Journal of Visualized Experiments</i> , 2010 ,	1.6	6
34	Harnessing gene and drug delivery for vascularizing engineered tissue platforms. <i>Drug Discovery Today</i> , 2016 , 21, 1532-1539	8.8	5
33	Using Del-1 to tip the angiogenic balance in endothelial cells in modular constructs. <i>Tissue Engineering - Part A</i> , 2014 , 20, 1222-34	3.9	5
32	Expression of matrix metalloproteinase-2 and -9 in exudates associated with polydimethyl siloxane and gelatin tubes implanted in mice. <i>Journal of Biomedical Materials Research Part B</i> , 2004 , 71, 226-32		5
31	A model of insulin delivery by a controlled release micropump. <i>Annals of Biomedical Engineering</i> , 1986 , 14, 257-76	4.7	5
30	Bone Marrow-Derived Macrophages Enhance Vessel Stability in Modular Engineered Tissues. <i>Tissue Engineering - Part A</i> , 2019 , 25, 911-923	3.9	5
29	Methacrylic acid-based hydrogels enhance skeletal muscle regeneration after volumetric muscle loss in mice. <i>Biomaterials</i> , 2021 , 275, 120909	15.6	5
28	MMP levels in the response to degradable implants in the presence of a hydroxamate-based matrix metalloproteinase sequestering biomaterial in vivo. <i>Journal of Biomedical Materials Research - Part A</i> , 2010 , 93, 1368-79	5.4	4
27	Perspective on hemocompatibility testing. <i>Journal of Biomedical Materials Research Part B</i> , 2001 , 55, 445-6		4
26	Video analysis of submerged jet microencapsulation using HEMA-MMA. <i>Canadian Journal of Chemical Engineering</i> , 1996 , 74, 518-525	2.3	4
25	Production of uniform drops of viscous liquids using a coaxial airstream. <i>Canadian Journal of Chemical Engineering</i> , 1991 , 69, 245-250	2.3	4

24	THE THROMBORESISTANCE OF A HEPARIN-POLYVINYL ALCOHOL HYDROGEL. <i>Chemical Engineering Communications</i> , 1984 , 30, 141-154	2.2	4
23	Angiogenic Biomaterials to Promote Tissue Vascularization and Integration. <i>Israel Journal of Chemistry</i> , 2013 , 53, n/a-n/a	3.4	3
22	Preparation and characterization of alkylated poly(vinyl alcohol) hydrogels using alkyl halides. <i>Journal of Biomaterials Science, Polymer Edition</i> , 1996 , 7, 647-59	3.5	3
21	Crystallinity and dicumyl peroxide diffusivity in low density polyethylene with different thermal histories. <i>Journal of Applied Polymer Science</i> , 1986 , 31, 2195-2202	2.9	3
20	Hydraulic permeability of open-cell hydrophilic polyurethane foams. <i>Journal of Applied Polymer Science</i> , 1980 , 25, 2167-2178	2.9	3
19	Poly-Methacrylic Acid Cross-Linked with Collagen Accelerates Diabetic Wound Closure. <i>ACS Biomaterials Science and Engineering</i> , 2020 , 6, 6368-6377	5.5	3
18	Muted fibrosis from protected islets. <i>Nature Biomedical Engineering</i> , 2018 , 2, 791-792	19	3
17	Chapter II.5.2 [Nonthrombogenic Treatments and Strategies 2012 , 1488-1509		2
16	X-ray photoelectron spectroscopy (XPS) surface analysis of HEMA-MMA microcapsules. <i>Journal of Biomaterials Science, Polymer Edition</i> , 1997 , 8, 655-65	3.5	2
15	Absorption of dicumyl peroxide by extruded polyethylene: Difference between surface and bulk morphology. <i>Journal of Applied Polymer Science</i> , 1984 , 29, 2383-2393	2.9	2
14	Stain length passive dosimeters. <i>AIHA Journal</i> , 1982 , 43, 820-824		2
13	Application of Modular Therapy for Renoprotection in Experimental Chronic Kidney Disease. <i>Tissue Engineering - Part A</i> , 2015 , 21, 1963-72	3.9	1
12	Sorption of carbon tetrachloride in low-density polyethylene pellets. <i>Journal of Applied Polymer Science</i> , 1986 , 31, 2109-2115	2.9	1
11	Structural Analysis by Diffusion Measurements: SBS Block Copolymers and Polyethylene. <i>Advances in Chemistry Series</i> , 1979 , 243-257		1
10	The Modular Approach 2013 , 119-148		1
9	Vascularized Organoid Engineered by Modular Assembly Enables Blood Perfusion. <i>FASEB Journal</i> , 2006 , 20, A436	0.9	1
8	Promoting endogenous repair of skeletal muscle using regenerative biomaterials. <i>Journal of Biomedical Materials Research - Part A</i> , 2021 , 109, 2720-2739	5.4	1
7	Hypoxia-Inducible Factor Drives Vascularization of Modularly Assembled Engineered Tissue. <i>Tissue Engineering - Part A</i> , 2019 , 25, 1127-1136	3.9	1

6	Degradable methacrylic acid-based synthetic hydrogel for subcutaneous islet transplantation.. <i>Biomaterials</i> , 2021 , 281, 121342	15.6	o
5	Commentary on: "In Vivo Remodelling of Vascularizing Engineered Tissues". <i>Annals of Biomedical Engineering</i> , 2015 , 43, 1271	4.7	
4	006Development of a Novel Matrix Metalloproteinase-Inhibiting Wound Dressing. <i>Wound Repair and Regeneration</i> , 2004 , 12, A4-A4	3.6	
3	P.160: Immune Response to Vascularizing Subcutaneous Engineered Islet Grafts.. <i>Transplantation</i> , 2021 , 105, S67	1.8	
2	Endothelialized collagen modules for islet tissue engineering 2020 , 277-287		
1	Nonthrombogenic Treatments and Strategies 2020 , 515-537		