

# Robert M Nerem

## List of Publications by Year in Descending Order

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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.

124  
papers

8,116  
citations

48  
h-index

89  
g-index

130  
ext. papers

8,580  
ext. citations

5.9  
avg, IF

6.03  
L-index

#	Paper	IF	Citations
124	miR-214 is Stretch-Sensitive in Aortic Valve and Inhibits Aortic Valve Calcification. <i>Annals of Biomedical Engineering</i> , <b>2019</b> , 47, 1106-1115	4.7	10
123	Disturbed Flow Increases UBE2C (Ubiquitin E2 Ligase C) via Loss of miR-483-3p, Inducing Aortic Valve Calcification by the pVHL (von Hippel-Lindau Protein) and HIF-1[̢Hypoxia-Inducible Factor-1]Pathway in Endothelial Cells. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , <b>2019</b> , 39, 467-481	9.4	32
122	Implementation of a Biomedical Engineering Research Experience for African-American High School Students at a Tier One Research University. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> , 140,	2.1	2
121	FOSTERING INTEGRITY IN RESEARCH. <i>Special Publications</i> , <b>2017</b> , 15-28		
120	Blood Vessel Substitutes <b>2017</b> , 237-247		
119	Biomanufacturing of Therapeutic Cells: State of the Art, Current Challenges, and Future Perspectives. <i>Annual Review of Chemical and Biomolecular Engineering</i> , <b>2016</b> , 7, 455-78	8.9	45
118	Identification of side- and shear-dependent microRNAs regulating porcine aortic valve pathogenesis. <i>Scientific Reports</i> , <b>2016</b> , 6, 25397	4.9	31
117	Engineering as a new frontier for translational medicine. <i>Science Translational Medicine</i> , <b>2015</b> , 7, 281fs1317.5	13	
116	The role of demineralized bone particle in a PLGA scaffold designed to create a media equivalent for a tissue engineered blood vessel. <i>Macromolecular Research</i> , <b>2015</b> , 23, 986-993	1.9	3
115	A global assessment of stem cell engineering. <i>Tissue Engineering - Part A</i> , <b>2014</b> , 20, 2575-89	3.9	5
114	Fluid shear stress pre-conditioning promotes endothelial morphogenesis of embryonic stem cells within embryoid bodies. <i>Tissue Engineering - Part A</i> , <b>2014</b> , 20, 954-65	3.9	18
113	The Challenge of Imitating Nature <b>2014</b> , 9-24		5
112	Stem cell engineering. <i>Tissue Engineering - Part A</i> , <b>2014</b> , 20, 893-4	3.9	7
111	Dynamic shear stress regulation of inflammatory and thrombotic pathways in baboon endothelial outgrowth cells. <i>Tissue Engineering - Part A</i> , <b>2013</b> , 19, 1573-82	3.9	11
110	Blood Vessel Tissue Engineering <b>2013</b> , 1237-1246		
109	Differentiation patterns of embryonic stem cells in two- versus three-dimensional culture. <i>Cells Tissues Organs</i> , <b>2013</b> , 197, 399-410	2.1	48
108	Influence of mesenchymal stem cells on the response of endothelial cells to laminar flow and shear stress. <i>Cells Tissues Organs</i> , <b>2013</b> , 198, 289-99	2.1	6

107	Strain magnitude-dependent calcific marker expression in valvular and vascular cells. <i>Cells Tissues Organs</i> , <b>2013</b> , 197, 372-83	2.1	14
106	Bioengineering and the cardiovascular system. <i>Global Cardiology Science &amp; Practice</i> , <b>2013</b> , 2013, 29-36	0.7	6
105	Effects of shear stress on germ lineage specification of embryonic stem cells. <i>Integrative Biology (United Kingdom)</i> , <b>2012</b> , 4, 1263-73	3.7	34
104	Fluid shear stress alters the hemostatic properties of endothelial outgrowth cells. <i>Tissue Engineering - Part A</i> , <b>2012</b> , 18, 127-36	3.9	26
103	Shear- and Side-dependent microRNAs and Messenger RNAs in Aortic Valvular Endothelium <b>2012</b> ,		3
102	Preferential activation of SMAD1/5/8 on the fibrosa endothelium in calcified human aortic valves--association with low BMP antagonists and SMAD6. <i>PLoS ONE</i> , <b>2011</b> , 6, e20969	3.7	60
101	In vitro human tissue models--moving towards personalized regenerative medicine. <i>Advanced Drug Delivery Reviews</i> , <b>2011</b> , 63, 195-6	18.5	26
100	A Tribute to Shu Chien's Scientific Achievement. <i>Cellular and Molecular Bioengineering</i> , <b>2011</b> , 4, 507-508	3.9	
99	Differences in valvular and vascular cell responses to strain in osteogenic media. <i>Biomaterials</i> , <b>2011</b> , 32, 2885-93	15.6	21
98	Discovery of shear- and side-specific mRNAs and miRNAs in human aortic valvular endothelial cells. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , <b>2011</b> , 301, H856-67	5.2	83
97	Tissue Engineering: From Basic Biology to Cell-Based Applications <b>2011</b> , 1-11		0
96	Regenerative medicine: the emergence of an industry. <i>Journal of the Royal Society Interface</i> , <b>2010</b> , 7 Suppl 6, S771-5	4.1	38
95	Progress in tissue engineering and regenerative medicine. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2010</b> , 107, 3285-6	11.5	98
94	Fluid shear stress promotes an endothelial-like phenotype during the early differentiation of embryonic stem cells. <i>Tissue Engineering - Part A</i> , <b>2010</b> , 16, 3547-53	3.9	65
93	Tissue engineering of a collagen-based vascular media: Demonstration of functionality. <i>Organogenesis</i> , <b>2010</b> , 6, 204-11	1.7	7
92	Cyclic strain improves strength and function of a collagen-based tissue-engineered vascular media. <i>Tissue Engineering - Part A</i> , <b>2010</b> , 16, 3149-57	3.9	45
91	A novel single-step self-assembly approach for the fabrication of tissue-engineered vascular constructs. <i>Tissue Engineering - Part A</i> , <b>2010</b> , 16, 1737-47	3.9	90
90	Mesenchymal stem cells overexpressing ephrin-b2 rapidly adopt an early endothelial phenotype with simultaneous reduction of osteogenic potential. <i>Tissue Engineering - Part A</i> , <b>2010</b> , 16, 2755-68	3.9	31

89	The Cardiovascular Technology Industry: Past, Present, and Future. <i>Cardiovascular Engineering and Technology</i> , <b>2010</b> , 1, 4-9	2.2	4
88	Cells into Systems. <i>Mechanical Engineering</i> , <b>2010</b> , 132, 30-34	0.9	3
87	The impact of biomechanics in tissue engineering and regenerative medicine. <i>Tissue Engineering - Part B: Reviews</i> , <b>2009</b> , 15, 477-84	7.9	75
86	Human mesenchymal stem cells form multicellular structures in response to applied cyclic strain. <i>Annals of Biomedical Engineering</i> , <b>2009</b> , 37, 783-93	4.7	17
85	Bone marrow-derived mesenchymal stem cells promote angiogenic processes in a time- and dose-dependent manner in vitro. <i>Tissue Engineering - Part A</i> , <b>2009</b> , 15, 2459-70	3.9	113
84	STEM CELLS, BIOMECHANICS, AND Y. C. FUNG <b>2009</b> , 185-192		
83	Vessel wall-embedded dendritic cells induce T-cell autoreactivity and initiate vascular inflammation. <i>Circulation Research</i> , <b>2008</b> , 102, 546-53	15.7	64
82	Potential of baboon endothelial progenitor cells for tissue engineered vascular grafts. <i>Journal of Biomedical Materials Research - Part A</i> , <b>2008</b> , 86, 804-12	5.4	29
81	Poly(glycerol sebacate) supports the proliferation and phenotypic protein expression of primary baboon vascular cells. <i>Journal of Biomedical Materials Research - Part A</i> , <b>2007</b> , 83, 1070-1075	5.4	72
80	Cell-based therapies: from basic biology to replacement, repair, and regeneration. <i>Biomaterials</i> , <b>2007</b> , 28, 5074-7	15.6	38
79	The Challenge of Imitating Nature <b>2007</b> , 7-14		3
78	Valvular endothelial cells and the mechanoregulation of valvular pathology. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2007</b> , 362, 1445-57	5.8	96
77	Endothelial connexin 37, connexin 40, and connexin 43 respond uniquely to substrate and shear stress. <i>Endothelium: Journal of Endothelial Cell Research</i> , <b>2007</b> , 14, 215-26		40
76	Equibiaxial strain stimulates fibroblastic phenotype shift in smooth muscle cells in an engineered tissue model of the aortic wall. <i>Biomaterials</i> , <b>2006</b> , 27, 5252-8	15.6	48
75	Engineering more physiologic in vitro models for the study of vascular biology. <i>Progress in Pediatric Cardiology</i> , <b>2006</b> , 21, 201-210	0.4	2
74	In vitro derivation and expansion of endothelial cells from embryonic stem cells. <i>Methods in Molecular Biology</i> , <b>2006</b> , 330, 287-301	1.4	20
73	Transcriptional profiles of valvular and vascular endothelial cells reveal phenotypic differences: influence of shear stress. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , <b>2006</b> , 26, 69-77	9.4	151
72	Embryonic stem cell-derived endothelial cells may lack complete functional maturation in vitro. <i>Journal of Vascular Research</i> , <b>2006</b> , 43, 411-21	1.9	44

71	Valvular endothelial cells regulate the phenotype of interstitial cells in co-culture: effects of steady shear stress. <i>Tissue Engineering</i> , <b>2006</b> , 12, 905-15		165
70	Tissue engineering: the hope, the hype, and the future. <i>Tissue Engineering</i> , <b>2006</b> , 12, 1143-50		119
69	Tissue Engineering: The Hope, the Hype, and the Future. <i>Tissue Engineering</i> , <b>2006</b> , 060518070820001		1
68	Mechanical, biochemical, and extracellular matrix effects on vascular smooth muscle cell phenotype. <i>Journal of Applied Physiology</i> , <b>2005</b> , 98, 2321-7	3.7	221
67	Viscoelastic testing methodologies for tissue engineered blood vessels. <i>Journal of Biomechanical Engineering</i> , <b>2005</b> , 127, 1176-84	2.1	34
66	Use of embryonic stem cell-derived endothelial cells as a cell source to generate vessel structures in vitro. <i>Tissue Engineering</i> , <b>2005</b> , 11, 497-505		54
65	Incorporation of intact elastin scaffolds in tissue-engineered collagen-based vascular grafts. <i>Tissue Engineering</i> , <b>2004</b> , 10, 1526-35		103
64	Genetic modification of smooth muscle cells to control phenotype and function in vascular tissue engineering. <i>Tissue Engineering</i> , <b>2004</b> , 10, 189-99		15
63	Unique morphology and focal adhesion development of valvular endothelial cells in static and fluid flow environments. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , <b>2004</b> , 24, 1429-34	9.4	224
62	The tissue engineering of blood vessels and the heart. <i>American Journal of Transplantation</i> , <b>2004</b> , 4 Suppl 6, 36-42	8.7	52
61	Bioengineering: 25 years of progressBut still only a beginning. <i>Technology in Society</i> , <b>2004</b> , 26, 415-431	6.3	7
60	Properties of engineered vascular constructs made from collagen, fibrin, and collagen-fibrin mixtures. <i>Biomaterials</i> , <b>2004</b> , 25, 3699-706	15.6	253
59	Critical issues in vascular tissue engineering. <i>International Congress Series</i> , <b>2004</b> , 1262, 122-125		6
58	Porcine aortic valve interstitial cells in three-dimensional culture: comparison of phenotype with aortic smooth muscle cells. <i>Journal of Heart Valve Disease</i> , <b>2004</b> , 13, 478-85; discussion 485-6		100
57	Functional Requirements for the Engineering of a Blood Vessel Substitute <b>2003</b> , 87-95		3
56	Phenotype modulation in vascular tissue engineering using biochemical and mechanical stimulation. <i>Annals of Biomedical Engineering</i> , <b>2003</b> , 31, 391-402	4.7	170
55	A biological hybrid model for collagen-based tissue engineered vascular constructs. <i>Biomaterials</i> , <b>2003</b> , 24, 1241-54	15.6	134
54	Altered response of vascular smooth muscle cells to exogenous biochemical stimulation in two- and three-dimensional culture. <i>Experimental Cell Research</i> , <b>2003</b> , 283, 146-55	4.2	163

53	Mechanical strain-stimulated remodeling of tissue-engineered blood vessel constructs. <i>Tissue Engineering</i> , <b>2003</b> , 9, 657-66		147
52	Purified and proliferating endothelial cells derived and expanded in vitro from embryonic stem cells. <i>Endothelium: Journal of Endothelial Cell Research</i> , <b>2003</b> , 10, 329-36		32
51	Tissue engineering: confronting the transplantation crisis. <i>Advances in Experimental Medicine and Biology</i> , <b>2003</b> , 534, 1-9	3.6	6
50	Role of mechanics in vascular tissue engineering. <i>Biorheology</i> , <b>2003</b> , 40, 281-7	1.7	47
49	Fluid-induced shear stress stimulates chondrocyte proliferation partially mediated via TGF-beta1. <i>Tissue Engineering</i> , <b>2002</b> , 8, 581-90		38
48	Maintenance of a functional endothelial cell monolayer on a fibroblast/polymer substrate under physiologically relevant shear stress conditions. <i>Tissue Engineering</i> , <b>2002</b> , 8, 695-708		27
47	Blood Vessel Substitute <b>2002</b> , 891-903		2
46	The role of matrix metalloproteinase-2 in the remodeling of cell-seeded vascular constructs subjected to cyclic strain. <i>Annals of Biomedical Engineering</i> , <b>2001</b> , 29, 923-34	4.7	115
45	Vascular tissue engineering. <i>Annual Review of Biomedical Engineering</i> , <b>2001</b> , 3, 225-43	12	347
44	Endothelial cellular response to altered shear stress. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , <b>2001</b> , 281, L529-33	5.8	274
43	Dynamic mechanical conditioning of collagen-gel blood vessel constructs induces remodeling in vitro. <i>Annals of Biomedical Engineering</i> , <b>2000</b> , 28, 351-62	4.7	420
42	Tissue engineering a blood vessel substitute: the role of biomechanics. <i>Yonsei Medical Journal</i> , <b>2000</b> , 41, 735-9	3	52
41	Biomechanics and Its Impact on Human Life: From Gene Expression to Organ Physiology <b>2000</b> , 13-19		
40	THE CHALLENGE OF IMITATING NATURE <b>2000</b> , 9-15		12
39	Oscillatory shear stress stimulates adhesion molecule expression in cultured human endothelium. <i>Circulation Research</i> , <b>1998</b> , 82, 532-9	15.7	429
38	Oscillatory and steady laminar shear stress differentially affect human endothelial redox state: role of a superoxide-producing NADH oxidase. <i>Circulation Research</i> , <b>1998</b> , 82, 1094-101	15.7	516
37	The Study of the Influence of Flow on Vascular Endothelial Biology. <i>American Journal of the Medical Sciences</i> , <b>1998</b> , 316, 169-175	2.2	8
36	Development of Vascular Substitutes. <i>Materials Research Society Symposia Proceedings</i> , <b>1998</b> , 550, 293		

35	Tissue Engineering and the Cardiovascular System <b>1998</b> , 561-579		2
34	The study of the influence of flow on vascular endothelial biology. <i>American Journal of the Medical Sciences</i> , <b>1998</b> , 316, 169-75	2.2	145
33	Phosphorylation of endothelial nitric oxide synthase in response to fluid shear stress. <i>Circulation Research</i> , <b>1996</b> , 79, 984-91	15.7	321
32	Oscillatory shear stress and hydrostatic pressure modulate cell-matrix attachment proteins in cultured endothelial cells. <i>In Vitro Cellular and Developmental Biology - Animal</i> , <b>1995</b> , 31, 45-54	2.6	64
31	Effects of shear on endothelial cell calcium in the presence and absence of ATP. <i>FASEB Journal</i> , <b>1995</b> , 9, 968-73	0.9	52
30	Tissue engineering: from basic science to products: a preface. <i>Tissue Engineering</i> , <b>1995</b> , 1, 147-9		12
29	Tissue engineering: from biology to biological substitutes. <i>Tissue Engineering</i> , <b>1995</b> , 1, 3-13		280
28	Shear stress modulates endothelial cell morphology and F-actin organization through the regulation of focal adhesion-associated proteins. <i>Journal of Cellular Physiology</i> , <b>1995</b> , 163, 179-93	7	198
27	Atherosclerosis and the Role of Wall Shear Stress <b>1995</b> , 300-319		13
26	Tissue engineering a blood vessel: regulation of vascular biology by mechanical stresses. <i>Journal of Cellular Biochemistry</i> , <b>1994</b> , 56, 204-9	4.7	79
25	The Active Response of an Endothelial Cell to the Onset of Flow <b>1994</b> , 369-391		
24	Hemodynamics and the vascular endothelium. <i>Journal of Biomechanical Engineering</i> , <b>1993</b> , 115, 510-4	2.1	119
23	Polarized secretion of IGF-I and IGF-I binding protein activity by cultured aortic endothelial cells. <i>Journal of Cellular Physiology</i> , <b>1993</b> , 154, 139-42	7	13
22	Shear Stress Effects on the Morphology and Cytomatrix of Cultured Vascular Endothelial Cells <b>1993</b> , 193-222		4
21	Effects of Shear Stress on Endothelial Cell Functions. <i>The Journal of Japan Atherosclerosis Society</i> , <b>1993</b> , 21, 473-477		
20	Cellular engineering. <i>Annals of Biomedical Engineering</i> , <b>1991</b> , 19, 529-45	4.7	125
19	Parametric analysis of flow in the intramyocardial circulation. <i>Annals of Biomedical Engineering</i> , <b>1990</b> , 18, 347-65	4.7	12
18	Hemodynamic Influences on Vascular Endothelial Biology*. <i>Toxicologic Pathology</i> , <b>1990</b> , 18, 572-582	2.1	66

17	Influence of Fluid Mechanical Stresses on Vascular Cell Adhesion <b>1990</b> , 283-292		
16	The study of rheological effects on vascular endothelial cells in culture. <i>Biorheology</i> , <b>1989</b> , 26, 345-57	1.7	58
15	A method for calculating time-dependent epicardial coronary blood flow. <i>Developments in Cardiovascular Medicine</i> , <b>1985</b> , 244-257		
14	Fluid dynamics as a factor in the localization of atherogenesis. <i>Annals of the New York Academy of Sciences</i> , <b>1983</b> , 416, 709-19	6.5	23
13	Coronary Hemodynamics: Measurements and Theoretical Studies <b>1982</b> , 241-261		
12	Arterial Fluid Dynamics and Interactions with the Vessel Walls <b>1981</b> , 719-835		25
11	Quantitative study of the localization of sudanophilic coeliac lesions in the White Carneau pigeon. <i>Atherosclerosis</i> , <b>1980</b> , 35, 103-10	3.1	22
10	Quantitative study of the rabbit aortic endothelium using vascular casts. <i>Atherosclerosis</i> , <b>1980</b> , 35, 321-337	3.1	91
9	Vascular casting. A new method for the study of the arterial endothelium. <i>Atherosclerosis</i> , <b>1979</b> , 34, 457-57	3.1	52
8	A method-of-characteristics calculation of coronary blood flow. <i>Journal of Fluid Mechanics</i> , <b>1977</b> , 82, 429-448	3.7	24
7	Fluid dynamic aspects of arterial disease. <i>Atherosclerosis</i> , <b>1976</b> , 23, 253-261	3.1	33
6	Hot film coronary artery velocity measurements in horses. <i>Cardiovascular Research</i> , <b>1976</b> , 10, 301-13	9.9	38
5	An In Vitro Study of Transendothelial Albumin Transport in a Steady State Pipe Flow at High Shear Rates. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , <b>1976</b> , 98, 488-493	2.1	2
4	Hot-film anemometer velocity measurements of arterial blood flow horses. <i>Circulation Research</i> , <b>1974</b> , 34, 193-203	15.7	72
3	Transport of 14 C-4-cholesterol between serum and wall in the perfused dog common carotid artery. <i>Circulation Research</i> , <b>1973</b> , 32, 187-205	15.7	133
2	Purified and Proliferating Endothelial Cells Derived and Expanded In Vitro from Embryonic Stem Cells		9
1	Blood Vessel Substitutes 998-1008		