Catherine Shanahan

List of Publications by Year in Descending Order

102 papers	15,896 citations	62 h-index	107 g-index
107 ext. papers	17,811 ext. citations	9 avg, IF	6.55 L-index

#	Paper	IF	Citations
102	Pressure and stiffness sensing together regulate vascular smooth muscle cell phenotype switching.. *Science Advances*, **2022**, 8, eabm3471	14.3	1
101	Runx2 (Runt-Related Transcription Factor 2) Links the DNA Damage Response to Osteogenic Reprogramming and Apoptosis of Vascular Smooth Muscle Cells. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2021**, 41, 1339-1357	9.4	9
100	Endoplasmic Reticulum Stress Mediates Vascular Smooth Muscle Cell Calcification via Increased Release of Grp78 (Glucose-Regulated Protein, 78 kDa)-Loaded Extracellular Vesicles. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2021**, 41, 898-914	9.4	17
99	Design considerations for engineering 3D models to study vascular pathologies in vitro. *Acta Biomaterialia*, **2021**, 132, 114-128	10.8	2
98	Reactive Oxygen-Forming Nox5 Links Vascular Smooth Muscle Cell Phenotypic Switching and Extracellular Vesicle-Mediated Vascular Calcification. *Circulation Research*, **2020**, 127, 911-927	15.7	39
97	SUN1/2 Are Essential for RhoA/ROCK-Regulated Actomyosin Activity in Isolated Vascular Smooth Muscle Cells. *Cells*, **2020**, 9,	7.9	5
96	Arterial "inflammaging" drives vascular calcification in children on dialysis. *Kidney International*, **2019**, 95, 958-972	9.9	50
95	Endogenous Calcification Inhibitors in the Prevention of Vascular Calcification: A Consensus Statement From the COST Action EuroSoftCalcNet. *Frontiers in Cardiovascular Medicine*, **2018**, 5, 196	5.4	48
94	Role of smooth muscle cells in vascular calcification: implications in atherosclerosis and arterial stiffness. *Cardiovascular Research*, **2018**, 114, 590-600	9.9	349
93	Extracellular Matrix Proteomics Reveals Interplay of Aggrecan and Aggrecanases in Vascular Remodeling of Stented Coronary Arteries. *Circulation*, **2018**, 137, 166-183	16.7	56
92	Muscle tensions merge to cause a DNA replication crisis. *Journal of Cell Biology*, **2018**, 217, 1891-1893	7.3	3
91	ER stress regulates alkaline phosphatase gene expression in vascular smooth muscle cells via an ATF4-dependent mechanism. *BMC Research Notes*, **2018**, 11, 483	2.3	10
90	Prothrombin Loading of Vascular Smooth Muscle Cell-Derived Exosomes Regulates Coagulation and Calcification. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2017**, 37, e22-e32	9.4	64
89	Current insights into LMNA cardiomyopathies: Existing models and missing LINCs. *Nucleus*, **2017**, 8, 17-33	3.9	42
88	Novel nesprin-1 mutations associated with dilated cardiomyopathy cause nuclear envelope disruption and defects in myogenesis. *Human Molecular Genetics*, **2017**, 26, 2258-2276	5.6	59
87	Extracellular matrix proteomics identifies molecular signature of symptomatic carotid plaques. *Journal of Clinical Investigation*, **2017**, 127, 1546-1560	15.9	73
86	Magnesium Counteracts Vascular Calcification: Passive Interference or Active Modulation?. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2017**, 37, 1431-1445	9.4	52

85	Medial Arterial Calcification: An Overlooked Player in Peripheral Arterial Disease. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2016**, 36, 1475-82	9.4	108
84	Prelamin A Accumulation Attenuates Rac1 Activity and Increases the Intrinsic Migrational Persistence of Aged Vascular Smooth Muscle Cells. *Cells*, **2016**, 5,	7.9	8
83	Emerging roles for vascular smooth muscle cell exosomes in calcification and coagulation. *Journal of Physiology*, **2016**, 594, 2905-14	3.9	85
82	Targeted redox inhibition of protein phosphatase 1 by Nox4 regulates eIF2-mediated stress signaling. *EMBO Journal*, **2016**, 35, 319-34	13	72
81	The nuclear lamina in health and disease. *Nucleus*, **2016**, 7, 233-48	3.9	60
80	Disruption of PCNA-lamins A/C interactions by prelamin A induces DNA replication fork stalling. *Nucleus*, **2016**, 7, 498-511	3.9	26
79	Prelamin A impairs 53BP1 nuclear entry by mislocalizing NUP153 and disrupting the Ran gradient. *Aging Cell*, **2016**, 15, 1039-1050	9.9	37
78	Vascular smooth muscle cell calcification is mediated by regulated exosome secretion. *Circulation Research*, **2015**, 116, 1312-23	15.7	319
77	BMP-9 regulates the osteoblastic differentiation and calcification of vascular smooth muscle cells through an ALK1 mediated pathway. *Journal of Cellular and Molecular Medicine*, **2015**, 19, 165-74	5.6	44
76	Inhibition of TNF- Reverses the Pathological Resorption Pit Profile of Osteoclasts from Patients with Acute Charcot Osteoarthropathy. *Journal of Diabetes Research*, **2015**, 2015, 917945	3.9	20
75	Bone morphogenetic protein receptor type II deficiency and increased inflammatory cytokine production. A gateway to pulmonary arterial hypertension. *American Journal of Respiratory and Critical Care Medicine*, **2015**, 192, 859-72	10.2	89
74	Technetium-99m and rhenium-188 complexes with one and two pendant bisphosphonate groups for imaging arterial calcification. *Dalton Transactions*, **2015**, 44, 4963-75	4.3	18
73	Novel use of a Dektak 150 surface profiler unmasks differences in resorption pit profiles between control and Charcot patient osteoclasts. *Calcified Tissue International*, **2014**, 94, 403-11	3.9	10
72	NMR spectroscopy of native and in vitro tissues implicates polyADP ribose in biomineralization. *Science*, **2014**, 344, 742-6	33.3	67
71	Medial vascular calcification revisited: review and perspectives. *European Heart Journal*, **2014**, 35, 1515-25	15.5	411
70	Neuropathy and the vascular-bone axis in diabetes: lessons from Charcot osteoarthropathy. *Osteoporosis International*, **2014**, 25, 1197-207	5.3	29
69	HDL in children with CKD promotes endothelial dysfunction and an abnormal vascular phenotype. *Journal of the American Society of Nephrology: JASN*, **2014**, 25, 2658-68	12.7	76
68	The effect of particle agglomeration on the formation of a surface-connected compartment induced by hydroxyapatite nanoparticles in human monocyte-derived macrophages. *Biomaterials*, **2014**, 35, 1074-88	15.6	98

67	Nesprins: tissue-specific expression of epsilon and other short isoforms. *PLoS ONE*, **2014**, 9, e94380	3.7	52
66	Mammalian microtubule P-body dynamics are mediated by nesprin-1. *Journal of Cell Biology*, **2014**, 205, 457-75	7.3	22
65	Mechanisms of vascular calcification in CKD-evidence for premature ageing?. *Nature Reviews Nephrology*, **2013**, 9, 661-70	14.9	114
64	Mechanistic insights into vascular calcification in CKD. *Journal of the American Society of Nephrology: JASN*, **2013**, 24, 179-89	12.7	260
63	Autophagy and matrix vesicles: new partners in vascular calcification. *Kidney International*, **2013**, 83, 984-6	8.9	27
62	Introduction to the Compendium on calcific aortic valve disease. *Circulation Research*, **2013**, 113, 176-8	15.7	6
61	Prelamin A accelerates vascular calcification via activation of the DNA damage response and senescence-associated secretory phenotype in vascular smooth muscle cells. *Circulation Research*, **2013**, 112, e99-109	15.7	150
60	Macrophage-derived matrix vesicles: an alternative novel mechanism for microcalcification in atherosclerotic plaques. *Circulation Research*, **2013**, 113, 72-7	15.7	380
59	Human vascular smooth muscle cell culture. *Methods in Molecular Biology*, **2012**, 806, 251-63	1.4	20
58	Calcium regulation of vascular smooth muscle cell-derived matrix vesicles. *Trends in Cardiovascular Medicine*, **2012**, 22, 133-7	6.9	62
57	Vascular calcification and hypertension: cause and effect. *Annals of Medicine*, **2012**, 44 Suppl 1, S85-92	1.5	65
56	Multiple novel nesprin-1 and nesprin-2 variants act as versatile tissue-specific intracellular scaffolds. *PLoS ONE*, **2012**, 7, e40098	3.7	82
55	Nesprin-1 and actin contribute to nuclear and cytoskeletal defects in lamin A/C-deficient cardiomyopathy. *Journal of Molecular and Cellular Cardiology*, **2011**, 50, 479-86	5.8	28
54	Nesprins LINC the nucleus and cytoskeleton. *Current Opinion in Cell Biology*, **2011**, 23, 47-54	9	114
53	Calcium regulates key components of vascular smooth muscle cell-derived matrix vesicles to enhance mineralization. *Circulation Research*, **2011**, 109, e1-12	15.7	269
52	Arterial calcification in chronic kidney disease: key roles for calcium and phosphate. *Circulation Research*, **2011**, 109, 697-711	15.7	610
51	Calcium and osteoprotegerin regulate IGF1R expression to inhibit vascular calcification. *Cardiovascular Research*, **2011**, 91, 537-45	9.9	32
50	The interaction between nesprins and sun proteins at the nuclear envelope is critical for force transmission between the nucleus and cytoskeleton. *Journal of Biological Chemistry*, **2011**, 286, 26743-53	5.4	340

49	Mammalian SUN protein interaction networks at the inner nuclear membrane and their role in laminopathy disease processes. *Journal of Biological Chemistry*, **2010**, 285, 3487-98	5.4	196
48	Novel nuclear nesprin-2 variants tether active extracellular signal-regulated MAPK1 and MAPK2 at promyelocytic leukemia protein nuclear bodies and act to regulate smooth muscle cell proliferation. *Journal of Biological Chemistry*, **2010**, 285, 1311-20	5.4	42
47	Chronic mineral dysregulation promotes vascular smooth muscle cell adaptation and extracellular matrix calcification. *Journal of the American Society of Nephrology: JASN*, **2010**, 21, 103-12	12.7	235
46	Prelamin A acts to accelerate smooth muscle cell senescence and is a novel biomarker of human vascular aging. *Circulation*, **2010**, 121, 2200-10	16.7	249
45	Exploring the biology of vascular calcification in chronic kidney disease: what's circulating?. *Kidney International*, **2008**, 73, 384-90	9.9	102
44	Calcium phosphate crystals induce cell death in human vascular smooth muscle cells: a potential mechanism in atherosclerotic plaque destabilization. *Circulation Research*, **2008**, 103, e28-34	15.7	240
43	Dialysis accelerates medial vascular calcification in part by triggering smooth muscle cell apoptosis. *Circulation*, **2008**, 118, 1748-57	16.7	371
42	The circulating calcification inhibitors, fetuin-A and osteoprotegerin, but not matrix Gla protein, are associated with vascular stiffness and calcification in children on dialysis. *Nephrology Dialysis Transplantation*, **2008**, 23, 3263-71	4.3	138
41	Mineral surface in calcified plaque is like that of bone: further evidence for regulated mineralization. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2008**, 28, 2030-4	9.4	86
40	Role for alkaline phosphatase as an inducer of vascular calcification in renal failure?. *Kidney International*, **2008**, 73, 989-91	9.9	97
39	Aspects of Nuclear Envelope Dynamics in Mitotic Cells. *Novartis Foundation Symposium*, **2008**, 22-34		1
38	The vascular biology of calcification. *Seminars in Dialysis*, **2007**, 20, 103-9	2.5	151
37	Post-translational modifications regulate matrix Gla protein function: importance for inhibition of vascular smooth muscle cell calcification. *Journal of Thrombosis and Haemostasis*, **2007**, 5, 2503-11	15.4	181
36	Distinct functional domains in nesprin-1alpha and nesprin-2beta bind directly to emerin and both interactions are disrupted in X-linked Emery-Dreifuss muscular dystrophy. *Experimental Cell Research*, **2007**, 313, 2845-57	4.2	78
35	Vascular calcification and osteoporosis--from clinical observation towards molecular understanding. *Osteoporosis International*, **2007**, 18, 251-9	5.3	180
34	Cell nuclei spin in the absence of lamin b1. *Journal of Biological Chemistry*, **2007**, 282, 20015-26	5.4	72
33	Nesprin-1 and -2 are involved in the pathogenesis of Emery Dreifuss muscular dystrophy and are critical for nuclear envelope integrity. *Human Molecular Genetics*, **2007**, 16, 2816-33	5.6	397
32	Inflammation ushers in calcification: a cycle of damage and protection?. *Circulation*, **2007**, 116, 2782-5	16.7	98

31	SUN1 interacts with nuclear lamin A and cytoplasmic nesprins to provide a physical connection between the nuclear lamina and the cytoskeleton. *Molecular and Cellular Biology*, **2006**, 26, 3738-51	4.8	389
30	Coupling of the nucleus and cytoplasm: role of the LINC complex. *Journal of Cell Biology*, **2006**, 172, 41-53	7.3	947
29	Vascular smooth muscle cell phenotypic plasticity and the regulation of vascular calcification. *Journal of Internal Medicine*, **2006**, 260, 192-210	10.8	174
28	Multifunctional roles for serum protein fetuin-a in inhibition of human vascular smooth muscle cell calcification. *Journal of the American Society of Nephrology: JASN*, **2005**, 16, 2920-30	12.7	272
27	Nesprins: intracellular scaffolds that maintain cell architecture and coordinate cell function?. *Expert Reviews in Molecular Medicine*, **2005**, 7, 1-15	6.7	1197
26	Vascular calcification. *Current Opinion in Nephrology and Hypertension*, **2005**, 14, 361-7	3.5	38
25	Induction, differentiation, and remodeling of blood vessels after transplantation of Bcl-2-transduced endothelial cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 425-30	11.5	90
24	Nesprin-2 is a multi-isomeric protein that binds lamin and emerin at the nuclear envelope and forms a subcellular network in skeletal muscle. *Journal of Cell Science*, **2005**, 118, 673-87	5.3	211
23	Adipocytic differentiation and liver x receptor pathways regulate the accumulation of triacylglycerols in human vascular smooth muscle cells. *Journal of Biological Chemistry*, **2005**, 280, 3911-9	5.4	56
22	Human vascular smooth muscle cells undergo vesicle-mediated calcification in response to changes in extracellular calcium and phosphate concentrations: a potential mechanism for accelerated vascular calcification in ESRD. *Journal of the American Society of Nephrology: JASN*, **2004**, 15, 2857-67	12.7	715
21	Krüppel-like factor 4 (KLF4/GKLF) is a target of bone morphogenetic proteins and transforming growth factor beta 1 in the regulation of vascular smooth muscle cell phenotype. *Journal of Biological Chemistry*, **2003**, 278, 11661-9	5.4	97
20	Osteo/chondrocytic transcription factors and their target genes exhibit distinct patterns of expression in human arterial calcification. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2003**, 23, 489-94	9.4	416
19	Acetylated low-density lipoprotein stimulates human vascular smooth muscle cell calcification by promoting osteoblastic differentiation and inhibiting phagocytosis. *Circulation*, **2002**, 106, 3044-50	16.7	128
18	Differential gene expression in vascular smooth muscle cells in primary atherosclerosis and in stent stenosis in humans. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2002**, 22, 2030-6	9.4	42
17	Biology of calcification in vascular cells: intima versus media. *Herz*, **2001**, 26, 245-51	2.6	135
16	A polymorphism of the human matrix gamma-carboxyglutamic acid protein promoter alters binding of an activating protein-1 complex and is associated with altered transcription and serum levels. *Journal of Biological Chemistry*, **2001**, 276, 32466-73	5.4	91
15	Linked chromosome 16q13 chemokines, macrophage-derived chemokine, fractalkine, and thymus- and activation-regulated chemokine, are expressed in human atherosclerotic lesions. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2001**, 21, 923-9	9.4	143
14	Matrix gla protein is regulated by a mechanism functionally related to the calcium-sensing receptor. *Biochemical and Biophysical Research Communications*, **2000**, 277, 736-40	3.4	80

13	Apoptosis regulates human vascular calcification in vitro: evidence for initiation of vascular calcification by apoptotic bodies. *Circulation Research*, **2000**, 87, 1055-62	15.7	534
12	Use of cDNA representational difference analysis to identify disease-specific genes in human atherosclerotic plaques. *Methods in Molecular Medicine*, **1999**, 30, 83-98		1
11	Aquaporin-1 is expressed by vascular smooth muscle cells and mediates rapid water transport across vascular cell membranes. *Journal of Vascular Research*, **1999**, 36, 353-62	1.9	67
10	Medial localization of mineralization-regulating proteins in association with Mönckeberg's sclerosis: evidence for smooth muscle cell-mediated vascular calcification. *Circulation*, **1999**, 100, 2168-76	16.7	520
9	Smooth muscle cell phenotypes in atherosclerotic lesions. *Current Opinion in Lipidology*, **1999**, 10, 507-13	4.4	51
8	The aquaporins. A family of water channel proteins. *International Journal of Biochemistry and Cell Biology*, **1998**, 30, 169-72	5.6	39
7	Smooth muscle cell heterogeneity: patterns of gene expression in vascular smooth muscle cells in vitro and in vivo. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **1998**, 18, 333-8	9.4	203
6	Calcification of human vascular cells in vitro is correlated with high levels of matrix Gla protein and low levels of osteopontin expression. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **1998**, 18, 379-88	9.4	212
5	Identification of osteoglycin as a component of the vascular matrix. Differential expression by vascular smooth muscle cells during neointima formation and in atherosclerotic plaques. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **1997**, 17, 2437-47	9.4	71
4	Molecular cloning of cDNA encoding the 110 kDa and 21 kDa regulatory subunits of smooth muscle protein phosphatase 1M. *FEBS Letters*, **1994**, 356, 51-5	3.8	110
3	High expression of genes for calcification-regulating proteins in human atherosclerotic plaques. *Journal of Clinical Investigation*, **1994**, 93, 2393-402	15.9	463
2	Approaches to the development of selective inhibitors of vascular smooth muscle cell proliferation. *Cardiovascular Research*, **1993**, 27, 1191-8	9.9	33
1	Isolation of gene markers of differentiated and proliferating vascular smooth muscle cells. *Circulation Research*, **1993**, 73, 193-204	15.7	327