Kristyn Masters

List of Publications by Year
in descending order

76 papers	4,809 citations	109321 35 h-index	95266 68 g-index
77 all docs	77 docs citations	77 times ranked	6253 citing authors

#	Article	IF	Citations
1	Calcific Aortic Valve Disease: Not Simply a Degenerative Process. Circulation, 2011, 124, 1783-1791.	1.6	699
2	Photocrosslinkable polyvinyl alcohol hydrogels that can be modified with cell adhesion peptides for use in tissue engineering. Biomaterials, 2002, 23, 4325-4332.	11.4	502
3	Valvular Myofibroblast Activation by Transforming Growth Factor-Î². Circulation Research, 2004, 95, 253-260.	4.5	349
4	Crosslinked hyaluronan scaffolds as a biologically active carrier for valvular interstitial cells. Biomaterials, 2005, 26, 2517-2525.	11.4	243
5	Tuning the Biological Activity Profile of Antibacterial Polymers via Subunit Substitution Pattern. Journal of the American Chemical Society, 2014, 136, 4410-4418.	13.7	175
6	Covalent Growth Factor Immobilization Strategies for Tissue Repair and Regeneration. Macromolecular Bioscience, 2011, 11, 1149-1163.	4.1	156
7	Nylon-3 Polymers with Selective Antifungal Activity. Journal of the American Chemical Society, 2013, 135, 5270-5273.	13.7	127
8	Nylon-3 Polymers Active against Drug-Resistant <i>Candida albicans</i> Biofilms. Journal of the American Chemical Society, 2015, 137, 2183-2186.	13.7	123
9	Decoupling the effects of stiffness and fiber density on cellular behaviors via an interpenetrating network of gelatin-methacrylate and collagen. Biomaterials, 2017, 141, 125-135.	11.4	114
10	Structureâ€“Activity Relationships among Antifungal Nylon-3 Polymers: Identification of Materials Active against Drug-Resistant Strains of <i>Candida albicans</i>. Journal of the American Chemical Society, 2014, 136, 4333-4342.	13.7	113
11	Designing scaffolds for valvular interstitial cells: Cell adhesion and function on naturally derived materials. Journal of Biomedical Materials Research Part B, 2004, 71A, 172-180.	3.1	109
12	Regulation of polyurethane hemocompatibility and endothelialization by tethered hyaluronic acid oligosaccharides. Biomaterials, 2009, 30, 5341-5351.	11.4	108
13	Ternary Nylon-3 Copolymers as Host-Defense Peptide Mimics: Beyond Hydrophobic and Cationic Subunits. Journal of the American Chemical Society, 2014, 136, 14530-14535.	13.7	108
14	Fund Black scientists. Cell, 2021, 184, 561-565.	28.9	107
15	Regulation of valvular interstitial cell calcification by components of the extracellular matrix. Journal of Biomedical Materials Research - Part A, 2009, 90A, 1043-1053.	4.0	88
16	Role of the MAPK/ERK pathway in valvular interstitial cell calcification. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 296, H1748-H1757.	3.2	67
17	Measurement of single-cell adhesion strength using a microfluidic assay. Biomedical Microdevices, 2010, 12, 443-455.	2.8	65
18	Sex-Related Differences in Gene Expression by Porcine Aortic Valvular Interstitial Cells. PLoS ONE, 2012, 7, e39980.	2.5	61

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19	Î±-5 Laminin Synthesized by Human Pluripotent Stem Cells Promotes Self-Renewal. Stem Cell Reports, 2015, 5, 195-206.	4.8	59
20	Can valvular interstitial cells become true osteoblasts? A side-by-side comparison. Journal of Heart Valve Disease, 2011, 20, 449-63.	0.5	59
21	Manipulation of valve composition to elucidate the role of collagen in aortic valve calcification. BMC Cardiovascular Disorders, 2014, 14, 29.	1.7	56
22	Scaffold stiffness influences breast cancer cell invasion via EGFR-linked Mena upregulation and matrix remodeling. Matrix Biology, 2020, 85-86, 80-93.	3.6	56
23	Regulation of valvular interstitial cell calcification by adhesive peptide sequences. Journal of Biomedical Materials Research - Part A, 2010, 93A, 1620-1630.	4.0	52
24	Role of the Rho pathway in regulating valvular interstitial cell phenotype and nodule formation. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 300, H448-H458.	3.2	52
25	Nylon-3 Copolymers that Generate Cell-Adhesive Surfaces Identified by Library Screening. Journal of the American Chemical Society, 2009, 131, 16779-16789.	13.7	51
26	<i>In vitro</i> Adipogenic Differentiation of Preadipocytes Varies with Differentiation Stimulus, Culture Dimensionality, and Scaffold Composition. Tissue Engineering - Part A, 2009, 15, 3389-3399.	3.1	51
27	Regulation of valvular interstitial cell phenotype and function by hyaluronic acid in 2-D and 3-D culture environments. Matrix Biology, 2011, 30, 70-82.	3.6	51
28	Surface Grafted Antibodies:Â Controlled Architecture Permits Enhanced Antigen Detection. Langmuir, 2005, 21, 10907-10911.	3.5	50
29	Calcific Aortic Valve Disease Is Associated with Layer-Specific Alterations in Collagen Architecture. PLoS ONE, 2016, 11, e0163858.	2.5	50
30	Efficacy of Simvastatin Treatment of Valvular Interstitial Cells Varies With the Extracellular Environment. Arteriosclerosis, Thrombosis, and Vascular Biology, 2009, 29, 246-253.	2.4	49
31	Immobilized gradients of epidermal growth factor promote accelerated and directed keratinocyte migration. Wound Repair and Regeneration, 2007, 15, 847-855.	3.0	48
32	The haemocompatibility of polyurethaneâ€“hyaluronic acid copolymers. Biomaterials, 2008, 29, 150-160.	11.4	46
33	Co-Immobilization of Gradient-Patterned Growth Factors for Directed Cell Migration. Annals of Biomedical Engineering, 2008, 36, 2121-2133.	2.5	43
34	Effects of Cyclic vs Acyclic Hydrophobic Subunits on the Chemical Structure and Biological Properties of Nylon-3 Copolymers. ACS Macro Letters, 2013, 2, 753-756.	4.8	40
35	Polymer Chain Length Effects on Fibroblast Attachment on Nylon-3-Modified Surfaces. Biomacromolecules, 2012, 13, 1100-1105.	5.4	39
36	Robust Generation of Quiescent Porcine Valvular Interstitial Cell Cultures. Journal of the American Heart Association, 2017, 6, .	3.7	36

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37	Creation of disease-inspired biomaterial environments to mimic pathological events in early calcific aortic valve disease. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E363-E371.	7.1	36
38	Nylon-3 Polymers That Enable Selective Culture of Endothelial Cells. Journal of the American Chemical Society, 2013, 135, 16296-16299.	13.7	35
39	Engineered Collagen Matrices. Bioengineering, 2020, 7, 163.	3.5	33
40	Regulation of keratinocyte signaling and function via changes in epidermal growth factor presentation. Acta Biomaterialia, 2010, 6, 3415-3425.	8.3	32
41	Calcific Aortic Valve Disease. Circulation Research, 2017, 120, 604-606.	4.5	29
42	Engineering the Extracellular Matrix to Model the Evolving Tumor Microenvironment. IScience, 2020, 23, 101742.	4.1	28
43	Ten simple rules for developing a mentorâ€“mentee expectations document. PLoS Computational Biology, 2017, 13, e1005709.	3.2	28
44	Hierarchy of cellular decisions in collective behavior: Implications for wound healing. Scientific Reports, 2016, 6, 20139.	3.3	27
45	CELLâ€“MATERIAL INTERACTIONS. Advances in Chemical Engineering, 2004, 29, 7-46.	0.9	26
46	Controlled polymerization chemistry to graft architectures that influence cell-material interactions. Acta Biomaterialia, 2007, 3, 151-161.	8.3	25
47	Screening Nylon-3 Polymers, a New Class of Cationic Amphiphiles, for siRNA Delivery. Molecular Pharmaceutics, 2015, 12, 362-374.	4.6	25
48	Detection of Antigens in Biologically Complex Fluids with Photografted Whole Antibodies. Analytical Chemistry, 2006, 78, 3144-3151.	6.5	22
49	Development of Aortic Valve Disease in Familial Hypercholesterolemic Swine: Implications for Elucidating Disease Etiology. Journal of the American Heart Association, 2015, 4, e002254.	3.7	21
50	Differential support of cell adhesion and growth by copolymers of polyurethane with hyaluronic acid. Journal of Biomedical Materials Research - Part A, 2013, 101, 2870-2882.	4.0	20
51	Effect of hyaluronic acid incorporation method on the stability and biological properties of polyurethaneâ€“hyaluronic acid biomaterials. Journal of Materials Science: Materials in Medicine, 2014, 25, 487-498.	3.6	19
52	Polyurethane/Dermatan Sulfate Copolymers as Hemocompatible, Nonâ€Biofouling Materials. Macromolecular Bioscience, 2011, 11, 257-266.	4.1	18
53	A time course investigation of the statin paradox among valvular interstitial cell phenotypes. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 303, H903-H909.	3.2	18
54	Engineering approaches to study fibrosis in 3-D in vitro systems. Current Opinion in Biotechnology, 2016, 40, 24-30.	6.6	18

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55	Experimental and computational analysis of cellular interactions with nylonâ€ȝâ€bearing substrates. Journal of Biomedical Materials Research - Part A, 2012, 100A, 2750-2759.	4.0	16
56	Engineering Approaches to Study Cellular Decision Making. Annual Review of Biomedical Engineering, 2018, 20, 49-72.	12.3	15
57	Influence of substrate composition on human embryonic stem cell differentiation and extracellular matrix production in embryoid bodies. Biotechnology Progress, 2015, 31, 212-219.	2.6	13
58	Disease-Inspired Tissue Engineering: Investigation of Cardiovascular Pathologies. ACS Biomaterials Science and Engineering, 2020, 6, 2518-2532.	5.2	12
59	A Mouse Model of Oropharyngeal Papillomavirus-Induced Neoplasia Using Novel Tools for Infection and Nasal Anesthesia. Viruses, 2020, 12, 450.	3.3	12
60	Multiscale Systems Biology Model of Calcific Aortic Valve Disease Progression. ACS Biomaterials Science and Engineering, 2017, 3, 2922-2933.	5.2	10
61	Ten simple rules for women principal investigators during a pandemic. PLoS Computational Biology, 2020, 16, e1008370.	3.2	10
62	Immobilized epidermal growth factor stimulates persistent, directed keratinocyte migration <i>via</i> activation of PLCÎ³1. FASEB Journal, 2016, 30, 2580-2590.	0.5	9
63	Impact of tissue preservation on collagen fiber architecture. Biotechnic and Histochemistry, 2019, 94, 134-144.	1.3	8
64	Angiogenic Secretion Profile of Valvular Interstitial Cells Varies With Cellular Sex and Phenotype. Frontiers in Cardiovascular Medicine, 2021, 8, 736303.	2.4	8
65	Engineering the aortic valve extracellular matrix through stages of development, aging, and disease. Journal of Molecular and Cellular Cardiology, 2021, 161, 1-8.	1.9	8
66	Multi-modal Profiling of the Extracellular Matrix of Human Fallopian Tubes and Serous Tubal Intraepithelial Carcinomas. Journal of Histochemistry and Cytochemistry, 2022, 70, 151-168.	2.5	7
67	Preliminary in vivo evaluation of a novel intrasaccular cerebral aneurysm occlusion device. Journal of NeuroInterventional Surgery, 2015, 7, 584-590.	3.3	5
68	Regulation of cell signaling and function via changes in growth factor presentation. , 2009, 2009, 1167-71.		4
69	Gene expression profiling of valvular interstitial cells in Rapacz familial hypercholesterolemic swine. Genomics Data, 2014, 2, 261-263.	1.3	3
70	Leader cell PLCÎ³1 activation during keratinocyte collective migration is induced by EGFR localization and clustering. Bioengineering and Translational Medicine, 2019, 4, e10138.	7.1	3
71	A Hybrid Coil/Polymer Device for Occlusion of Cerebral Aneurysms. Journal of Medical Devices, Transactions of the ASME, 2009, 3, .	0.7	2
72	Design and characterization of a hydrodynamically confined microflow device for applying controlled loads to investigate single-cell mechanics. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	1

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73	Multispectral Staining and Analysis of Extracellular Matrix. Methods in Molecular Biology, 2022, 2424, 105-119.	0.9	1
74	Characterization of Sex-Related Differences in Valvular Interstitial Cells. , 2012, , .		0
75	Investigation of the Statin Paradox in Different Populations of VICs. , 2012, , .		0
76	Wave mice: a new tool in the quest to characterize aortic valvular disease etiologies. Journal of Thoracic Disease, 2015, 7, E332-4.	1.4	0