Kevin E Healy

List of Publications by Year
in descending order

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137 papers	12,076 citations	23567 58 h-index	27406 106 g-index
146 all docs	146 docs citations	146 times ranked	13885 citing authors

#	Article	IF	Citations
1	Metabolically driven maturation of human-induced-pluripotent-stem-cell-derived cardiac microtissues on microfluidic chips. Nature Biomedical Engineering, 2022, 6, 372-388.	22.5	42
2	Semisynthetic Hyaluronic Acid-Based Hydrogel Promotes Recovery of the Injured Tibialis Anterior Skeletal Muscle Form and Function. ACS Biomaterials Science and Engineering, 2021, 7, 1587-1599.	5.2	25
3	High-Throughput Discovery of Targeted, Minimally Complex Peptide Surfaces for Human Pluripotent Stem Cell Culture. ACS Biomaterials Science and Engineering, 2021, 7, 1344-1360.	5.2	4
4	In vitro safety â€œclinical trialâ€•of the cardiac liability of drug polytherapy. Clinical and Translational Science, 2021, 14, 1155-1165.	3.1	11
5	Integrated Isogenic Human Induced Pluripotent Stem Cellâ€“Based Liver and Heart Microphysiological Systems Predict Unsafe Drugâ€“Drug Interaction. Frontiers in Pharmacology, 2021, 12, 667010.	3.5	29
6	Heart Muscle Microphysiological System for Cardiac Liability Prediction of Repurposed COVID-19 Therapeutics. Frontiers in Pharmacology, 2021, 12, 684252.	3.5	12
7	Isochoric supercooled preservation and revival of human cardiac microtissues. Communications Biology, 2021, 4, 1118.	4.4	21
8	Stem cell-based vascularization of microphysiological systems. Stem Cell Reports, 2021, 16, 2058-2075.	4.8	12
9	Hyaluronic Acid Macromer Molecular Weight Dictates the Biophysical Properties and in Vitro Cellular Response to Semisynthetic Hydrogels. ACS Biomaterials Science and Engineering, 2020, 6, 1135-1143.	5.2	20
10	Facile Macrocyclic Polyphenol Barrier Coatings for PDMS Microfluidic Devices. Advanced Functional Materials, 2020, 30, 2001274.	14.9	12
11	A traceless linker for aliphatic amines that rapidly and quantitatively fragments after reduction. Chemical Science, 2020, 11, 8973-8980.	7.4	15
12	Maladaptive Contractility of 3D Human Cardiac Microtissues to Mechanical Nonuniformity. Advanced Healthcare Materials, 2020, 9, e1901373.	7.6	12
13	Cardiac Microtissues: Maladaptive Contractility of 3D Human Cardiac Microtissues to Mechanical Nonuniformity (Adv. Healthcare Mater. 8/2020). Advanced Healthcare Materials, 2020, 9, 2070024.	7.6	1
14	Myocardial injection of a thermoresponsive hydrogel with reactive oxygen species scavenger properties improves border zone contractility. Journal of Biomedical Materials Research - Part A, 2020, 108, 1736-1746.	4.0	16
15	Identifying Drug Response by Combining Measurements of the Membrane Potential, the Cytosolic Calcium Concentration, and the Extracellular Potential in Microphysiological Systems. Frontiers in Pharmacology, 2020, 11, 569489.	3.5	11
16	Intramyocardial injection of a fully synthetic hydrogel attenuates left ventricular remodeling post myocardial infarction. Biomaterials, 2019, 217, 119289.	11.4	54
17	New Molecular Scaffolds for Fluorescent Voltage Indicators. ACS Chemical Biology, 2019, 14, 390-396.	3.4	23
18	Matrix-assisted cell transplantation for tissue vascularization. Advanced Drug Delivery Reviews, 2019, 146, 155-169.	13.7	18

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19	A combined hiPSC-derived endothelial cell and in vitro microfluidic platform for assessing biomaterial-based angiogenesis. Biomaterials, 2019, 194, 73-83.	11.4	41
20	Improved Computational Identification of Drug Response Using Optical Measurements of Human Stem Cell Derived Cardiomyocytes in Microphysiological Systems. Frontiers in Pharmacology, 2019, 10, 1648.	3.5	39
21	Actomyosin-Mediated Tension Orchestrates Uncoupled Respiration in Adipose Tissues. Cell Metabolism, 2018, 27, 602-615.e4.	16.2	70
22	Quantitatively characterizing drugâ€induced arrhythmic contractile motions of human stem cellâ€derived cardiomyocytes. Biotechnology and Bioengineering, 2018, 115, 1958-1970.	3.3	5
23	Gellan Gum Hydrogels with Enzymeâ€Sensitive Biodegradation and Endothelial Cell Biorecognition Sites. Advanced Healthcare Materials, 2018, 7, 1700686.	7.6	39
24	Multivalent conjugates of basic fibroblast growth factor enhance in vitro proliferation and migration of endothelial cells. Biomaterials Science, 2018, 6, 1076-1083.	5.4	24
25	Generation of spatial-patterned early-developing cardiac organoids using human pluripotent stem cells. Nature Protocols, 2018, 13, 723-737.	12.0	121
26	Inversion and computational maturation of drug response using human stem cell derived cardiomyocytes in microphysiological systems. Scientific Reports, 2018, 8, 17626.	3.3	41
27	Contractile deficits in engineered cardiac microtissues as a result of MYBPC3 deficiency and mechanical overload. Nature Biomedical Engineering, 2018, 2, 955-967.	22.5	82
28	TGF-Î²1/CD105 signaling controls vascular network formation within growth factor sequestering hyaluronic acid hydrogels. PLoS ONE, 2018, 13, e0194679.	2.5	29
29	WAT-on-a-chip: a physiologically relevant microfluidic system incorporating white adipose tissue. Lab on A Chip, 2017, 17, 1645-1654.	6.0	93
30	Navigating the Future of Cardiovascular Drug Developmentâ€"Leveraging Novel Approaches to Drive Innovation and Drug Discovery: Summary of Findings from the Novel Cardiovascular Therapeutics Conference. Cardiovascular Drugs and Therapy, 2017, 31, 445-458.	2.6	8
31	A Bioengineering Approach to Myopia Control Tested in a Guinea Pig Model. , 2017, 58, 1875.		15
32	sFlt Multivalent Conjugates Inhibit Angiogenesis and Improve Half-Life In Vivo. PLoS ONE, 2016, 11, e0155990.	2.5	9
33	Miniaturized iPS-Cell-Derived Cardiac Muscles for Physiologically Relevant Drug Response Analyses. Scientific Reports, 2016, 6, 24726.	3.3	191
34	Matrix metalloproteinase-13 mediated degradation of hyaluronic acid-based matrices orchestrates stem cell engraftment through vascular integration. Biomaterials, 2016, 89, 136-147.	11.4	60
35	Application of 3D Printing for Smart Objects with Embedded Electronic Sensors and Systems. Advanced Materials Technologies, 2016, 1, 1600013.	5.8	167
36	Branching Analysis of Multivalent Conjugates Using Size Exclusion Chromatographyâ€"Multiangle Light Scattering. Biomacromolecules, 2016, 17, 3162-3171.	5.4	7

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37	Drug-eluting biodegradable ureteral stent: New approach for urothelial tumors of upper urinary tract cancer. International Journal of Pharmaceutics, 2016, 513, 227-237.	5.2	58
38	Controlling integrin-based adhesion to a degradable electrospun fibre scaffold via SI-ATRP. Journal of Materials Chemistry B, 2016, 4, 7314-7322.	5.8	12
39	Multivalent hyaluronic acid bioconjugates improve sFlt-1 activity inÂvitro. Biomaterials, 2016, 93, 95-105.	11.4	25
40	Tissue engineering strategies for promoting vascularized bone regeneration. Bone, 2016, 83, 197-209.	2.9	145
41	In vitro cardiac tissue models: Current status and future prospects. Advanced Drug Delivery Reviews, 2016, 96, 203-213.	13.7	150
42	Î¼Organo: A LegoÂ®-Like Plug & Play System for Modular Multi-Organ-Chips. PLoS ONE, 2015, 10, e0139587.	2.5	94
43	Human iPSC-based Cardiac Microphysiological System For Drug Screening Applications. Scientific Reports, 2015, 5, 8883.	3.3	411
44	Why regenerative medicine needs an extracellular matrix. Expert Opinion on Biological Therapy, 2015, 15, 3-7.	3.1	27
45	Enhanced survival and engraftment of transplanted stem cells using growth factor sequestering hydrogels. Biomaterials, 2015, 47, 1-12.	11.4	97
46	Directing cell migration and organization via nanocrater-patterned cell-repellent interfaces. Nature Materials, 2015, 14, 918-923.	27.5	159
47	Multivalent Conjugates of Sonic Hedgehog Accelerate Diabetic Wound Healing. Tissue Engineering - Part A, 2015, 21, 2366-2378.	3.1	14
48	Self-organizing human cardiac microchambers mediated by geometric confinement. Nature Communications, 2015, 6, 7413.	12.8	167
49	Molecular weight and concentration of heparin in hyaluronic acid-based matrices modulates growth factor retention kinetics and stem cell fate. Journal of Controlled Release, 2015, 209, 308-316.	9.9	65
50	Low Fouling Electrospun Scaffolds with Clicked Bioactive Peptides for Specific Cell Attachment. Biomacromolecules, 2015, 16, 2109-2118.	5.4	18
51	Matrix-Assisted Transplantation of Functional Beige Adipose Tissue. Diabetes, 2015, 64, 3713-3724.	0.6	47
52	Automated Video-Based Analysis of Contractility and Calcium Flux in Human-Induced Pluripotent Stem Cell-Derived Cardiomyocytes Cultured over Different Spatial Scales. Tissue Engineering - Part C: Methods, 2015, 21, 467-479.	2.1	232
53	Controlling Osteogenic Stem Cell Differentiation via Soft Bioinspired Hydrogels. PLoS ONE, 2014, 9, e98640.	2.5	35
54	The effect of multivalent Sonic hedgehog on differentiation of human embryonic stem cells into dopaminergic and GABAergic neurons. Biomaterials, 2014, 35, 941-948.	11.4	52

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55	Physiologically relevant organs on chips. Biotechnology Journal, 2014, 9, 16-27.	3.5	109
56	Calcium Transients Closely Reflect Prolonged Action Potentials in iPSC Models of Inherited Cardiac Arrhythmia. Stem Cell Reports, 2014, 3, 269-281.	4.8	106
57	Three-dimensional filamentous human diseased cardiac tissue model. Biomaterials, 2014, 35, 1367-1377.	11.4	102
58	Multivalent ligands control stem cell behaviour in vitro and in vivo. Nature Nanotechnology, 2013, 8, 831-838.	31.5	97
59	Human induced pluripotent stem cell-based microphysiological tissue models of myocardium and liver for drug development. Stem Cell Research and Therapy, 2013, 4, S14.	5.5	48
60	Effect of avidin-like proteins and biotin modification on mesenchymal stem cell adhesion. Biomaterials, 2013, 34, 3758-3762.	11.4	11
61	Designing Tunable Artificial Matrices for Stem Cell Culture. , 2013, , 927-935.		0
62	Engineering the Emergence of Stem Cell Therapeutics. Science Translational Medicine, 2013, 5, 207ed17.	12.4	19
63	Molecular Characterization of Multivalent Bioconjugates by Size-Exclusion Chromatography with Multiangle Laser Light Scattering. Bioconjugate Chemistry, 2012, 23, 1794-1801.	3.6	20
64	Stem Cells and Regenerative Medicine for Treating Damaged Myocardium. , 2012, , 1-24.		0
65	Chemical Patterning of Ultrathin Polymer Films by Direct-Write Multiphoton Lithography. Journal of the American Chemical Society, 2011, 133, 6138-6141.	13.7	46
66	Engineered polymer-media interfaces for the long-term self-renewal of human embryonic stem cells. Biomaterials, 2011, 32, 6912-6919.	11.4	104
67	Exploiting bacterial peptide display technology to engineer biomaterials for neural stem cell culture. Biomaterials, 2011, 32, 1484-1494.	11.4	37
68	Designing Tunable Artificial Matrices for Stem Cell Culture. , 2011, , 717-728.		2
69	Mechanical and swelling characterization of poly(N-isopropyl acrylamide -co- methoxy poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Over	8.3	49
70	The effect of micronscale anisotropic cross patterns on fibroblast migration. Biomaterials, 2010, 31, 4286-4295.	11.4	106
71	Biomimetic matrices for myocardial stabilization and stem cell transplantation. Journal of Biomedical Materials Research - Part A, 2010, 95A, 1055-1066.	4.0	76
72	Neural stem cell adhesion and proliferation on phospholipid bilayers functionalized with RGD peptides. Biomaterials, 2010, 31, 8706-8715.	11.4	89

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73	Biophysics and dynamics of natural and engineered stem cell microenvironments. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2010, 2, 49-64.	6.6	55
74	Scleral Reinforcement Through Host Tissue Integration with Biomimetic Enzymatically Degradable Semi-Interpenetrating Polymer Network. Tissue Engineering - Part A, 2010, 16, 905-916.	3.1	15
75	Surface Creasing Instability of Soft Polyacrylamide Cell Culture Substrates. Biophysical Journal, 2010, 99, L94-L96.	0.5	72
76	Characterization of integrin engagement during defined human embryonic stem cell culture. FASEB Journal, 2010, 24, 1056-1065.	0.5	102
77	Temporal Gene Expression Profiling during Rat Femoral Marrow Ablation-Induced Intramembranous Bone Regeneration. PLoS ONE, 2010, 5, e12987.	2.5	45
78	Controlling biological interfaces on the nanometer length scale. Journal of Biomedical Materials Research - Part A, 2009, 90A, 1252-1261.	4.0	54
79	Cells nourished by nanodrops. Nature Materials, 2009, 8, 700-702.	27.5	4
80	Characterization of Matrigel interfaces during defined human embryonic stem cell culture. Biointerphases, 2009, 4, 69-79.	1.6	71
81	Biomimetic and Bio-responsive Materials in Regenerative Medicine. , 2009, , 1-58.		4
82	Substrate Modulus Directs Neural Stem Cell Behavior. Biophysical Journal, 2008, 95, 4426-4438.	0.5	947
83	Multivalency of Sonic Hedgehog Conjugated to Linear Polymer Chains Modulates Protein Potency. Bioconjugate Chemistry, 2008, 19, 806-812.	3.6	50
84	Engineering Biomaterials for Synthetic Neural Stem Cell Microenvironments. Chemical Reviews, 2008, 108, 1787-1796.	47.7	95
85	Peri-implant bone formation and implant integration strength of peptide-modified p(AAM-co-EG/AAC) interpenetrating polymer network-coated titanium implants. Journal of Biomedical Materials Research - Part A, 2007, 80A, 306-320.	4.0	46
86	Biomimetic interfacial interpenetrating polymer networks control neural stem cell behavior. Journal of Biomedical Materials Research - Part A, 2007, 81A, 240-249.	4.0	97
87	The effect of enzymatically degradable IPN coatings on peri-implant bone formation and implant fixation. Journal of Biomedical Materials Research - Part A, 2007, 81A, 720-727.	4.0	22
88	Regulation of endothelial cell function by GRGDSP peptide grafted on interpenetrating polymers. Journal of Biomedical Materials Research - Part A, 2007, 83A, 423-433.	4.0	40
89	Immobilized sonic hedgehog N-terminal signaling domain enhances differentiation of bone marrow-derived mesenchymal stem cells. Journal of Biomedical Materials Research - Part A, 2007, 83A, 1200-1208.	4.0	41
90	Designing synthetic materials to control stem cell phenotype. Current Opinion in Chemical Biology, 2007, 11, 381-387.	6.1	208

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91	Bioelectrocatalytic self-assembled thylakoids for micro-power and sensing applications. Sensors and Actuators B: Chemical, 2006, 117, 480-487.	7.8	42
92	Hydrogels as artificial matrices for human embryonic stem cell self-renewal. Journal of Biomedical Materials Research - Part A, 2006, 79A, 1-5.	4.0	141
93	Biomimetic artificial ECMs stimulate bone regeneration. Journal of Biomedical Materials Research - Part A, 2006, 79A, 815-826.	4.0	63
94	In vitro characterization of peptide-modified p(AAm-co-EG/AAc) IPN-coated titanium implants. Journal of Orthopaedic Research, 2006, 24, 1366-1376.	2.3	37
95	Theoretical Impact of the Injection of Material Into the Myocardium. Circulation, 2006, 114, 2627-2635.	1.6	279
96	Ligand density characterization of peptide-modified biomaterials. Biomaterials, 2005, 26, 6897-6905.	11.4	33
97	Synthetic MMP-13 degradable ECMs based on poly(N-isopropylacrylamide-co-acrylic acid) semi-interpenetrating polymer networks. I. Degradation and cell migration. Journal of Biomedical Materials Research - Part A, 2005, 75A, 73-88.	4.0	121
98	The effect of ligand type and density on osteoblast adhesion, proliferation, and matrix mineralization. Journal of Biomedical Materials Research - Part A, 2005, 75A, 855-869.	4.0	103
99	Analysis of sterilization protocols for peptide-modified hydrogels. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2005, 74B, 440-447.	3.4	49
100	Inhibition of macrophage development and foreign body giant cell formation by hydrophilic interpenetrating polymer network. Journal of Biomedical Materials Research Part B, 2004, 69A, 644-650.	3.1	46
101	Poly(N-isopropylacrylamide)-based semi-interpenetrating polymer networks for tissue engineering applications. Effects of linear poly(acrylic acid) chains on rheology. Journal of Biomaterials Science, Polymer Edition, 2004, 15, 865-878.	3.5	32
102	Patterning, Prestress, and Peeling Dynamics of Myocytes. Biophysical Journal, 2004, 86, 1209-1222.	0.5	48
103	Peptide-modified p(AAm-co-EG/AAc) IPNs grafted to bulk titanium modulate osteoblast behaviorin vitro. Journal of Biomedical Materials Research Part B, 2003, 64A, 38-47.	3.1	92
104	Nanoparticulate DNA Packaging Using Terpolymers of Poly(lysine-g-(lactide-b-ethylene glycol)). Bioconjugate Chemistry, 2003, 14, 311-319.	3.6	53
105	Axisymmetric Adhesion Test To Examine the Interfacial Interactions between Biologically-Modified Networks and Models of the Extracellular Matrixâ€. Langmuir, 2003, 19, 1853-1860.	3.5	13
106	Synthesis and Characterization of Injectable Poly(N-isopropylacrylamide-co-acrylic acid) Hydrogels with Proteolytically Degradable Cross-Links. Biomacromolecules, 2003, 4, 1214-1223.	5.4	306
107	The role of Î±3Î²1 integrin in determining the supramolecular organization of laminin-5 in the extracellular matrix of keratinocytes. Experimental Cell Research, 2003, 283, 67-79.	2.6	66
108	Micropatterns of Chemisorbed Cell Adhesion-Repellent Films Using Oxygen Plasma Etching and Elastomeric Masks. Langmuir, 2003, 19, 4754-4764.	3.5	153

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109	Engineering gene expression and protein synthesis by modulation of nuclear shape. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1972-1977.	7.1	454
110	Poly(N-isopropylacrylamide)-Based Semi-interpenetrating Polymer Networks for Tissue Engineering Applications. 1. Effects of Linear Poly(acrylic acid) Chains on Phase Behavior. Biomacromolecules, 2002, 3, 591-600.	5.4	91
111	Sequential robust design methodology and X-ray photoelectron spectroscopy to analyze the grafting of hyaluronic acid to glass substrates. Journal of Biomedical Materials Research Part B, 2002, 61, 391-398.	3.1	42
112	Thermo-Responsive Peptide-Modified Hydrogels for Tissue Regeneration. Biomacromolecules, 2001, 2, 185-194.	5.4	245
113	A system to impose prescribed homogenous strains on cultured cells. Journal of Applied Physiology, 2001, 91, 1600-1610.	2.5	31
114	Surface chemistry control of monocyte and macrophage adhesion, morphology, and fusion. , 2000, 49, 141-145.		25
115	Protein adsorption and cell attachment to patterned surfaces. Journal of Biomedical Materials Research Part B, 2000, 49, 200-210.	3.1	140
116	The effect of peptide surface density on mineralization of a matrix deposited by osteogenic cells. Journal of Biomedical Materials Research Part B, 2000, 52, 595-600.	3.1	164
117	A biodegradable polymer scaffold for delivery of osteotropic factors. Biomaterials, 2000, 21, 2545-2551.	11.4	183
118	Specific Amelogenin Gene Splice Products Have Signaling Effects on Cells in Culture and in Implants in Vivo. Journal of Biological Chemistry, 2000, 275, 41263-41272.	3.4	222
119	Protein adsorption and cell attachment to patterned surfaces. Journal of Biomedical Materials Research Part B, 2000, 49, 200-210.	3.1	5
120	Biomimetic Peptide Surfaces That Regulate Adhesion, Spreading, Cytoskeletal Organization, and Mineralization of the Matrix Deposited by Osteoblast-like Cells. Biotechnology Progress, 1999, 15, 19-32.	2.6	311
121	Designing Biomaterials to Direct Biological Responses. Annals of the New York Academy of Sciences, 1999, 875, 24-35.	3.8	159
122	Integrin subunits responsible for adhesion of human osteoblast-like cells to biomimetic peptide surfaces. Journal of Orthopaedic Research, 1999, 17, 615-623.	2.3	138
123	Bioactivation of Metal Oxide Surfaces. 1. Surface Characterization and Cell Response. Langmuir, 1999, 15, 6931-6939.	3.5	164
124	Molecular engineering of materials for bioreactivity. Current Opinion in Solid State and Materials Science, 1999, 4, 381-387.	11.5	67
125	Synthesis and Characterization of Injectable Poly(N-isopropylacrylamide)-Based Hydrogels That Support Tissue Formation in Vitro. Macromolecules, 1999, 32, 7370-7379.	4.8	335
126	A probabilistic approach to measure the strength of bone cell adhesion to chemically modified surfaces. Annals of Biomedical Engineering, 1997, 25, 190-203.	2.5	44

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127	The role of vitronectin in the attachment and spatial distribution of bone-derived cells on materials with patterned surface chemistry. Journal of Biomedical Materials Research Part B, 1997, 37, 81-93.	3.1	149
128	The detachment strength and morphology of bone cells contacting materials modified with a peptide sequence found within bone sialoprotein. , 1997, 37, 9-19.		170
129	The role of vitronectin in the attachment and spatial distribution of bone-derived cells on materials with patterned surface chemistry. , 1997, 37, 81.		1
130	Kinetics of bone cell organization and mineralization on materials with patterned surface chemistry. Biomaterials, 1996, 17, 195-208.	11.4	244
131	Spatial distribution of mammalian cells dictated by material surface chemistry. Biotechnology and Bioengineering, 1994, 43, 792-800.	3.3	101
132	A versatile technique for patterning biomolecules onto glass coverslips. Journal of Neuroscience Methods, 1993, 50, 385-397.	2.5	141
133	Hydration and preferential molecular adsorption on titanium in vitro. Biomaterials, 1992, 13, 553-561.	11.4	243
134	The mechanisms of passive dissolution of titanium in a model physiological environment. Journal of Biomedical Materials Research Part B, 1992, 26, 319-338.	3.1	188
135	Osteogenic Cell Attachment to Degradable Polymers. Materials Research Society Symposia Proceedings, 1991, 252, 109.	0.1	16
136	The effect of plasma-sprayed calcium phosphate ceramic coatings on the metal ion release from porous titanium and cobalt-chromium alloys. Journal of Biomedical Materials Research Part B, 1988, 22, 1137-1163.	3.1	129
137	Quantitatively Characterizing Drug-Induced Arrhythmic Contractile Motions of Human Stem Cell-Derived Cardiomyocytes. Biotechnology and Bioengineering, 0, , .	3.3	0