Kristopher Alan Kilian

List of Publications by Citations

75 papers	4,704 citations	32 h-index	68 g-index
88 ext. papers	5,287 ext. citations	9.8 avg, IF	5.8 L-index

#	Paper	IF	Citations
75	Geometric cues for directing the differentiation of mesenchymal stem cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 4872-7	11.5	1366
74	Functionalization of acetylene-terminated monolayers on Si(100) surfaces: a click chemistry approach. *Langmuir*, **2007**, 23, 9320-9	4	241
73	Epidermal mechano-acoustic sensing electronics for cardiovascular diagnostics and human-machine interfaces. *Science Advances*, **2016**, 2, e1601185	14.3	220
72	Directing stem cell fate on hydrogel substrates by controlling cell geometry, matrix mechanics and adhesion ligand composition. *Biomaterials*, **2013**, 34, 8140-8	15.6	214
71	Effects of atmospheric ozone on microarray data quality. *Analytical Chemistry*, **2003**, 75, 4672-5	7.8	181
70	The importance of surface chemistry in mesoporous materials: lessons from porous silicon biosensors. *Chemical Communications*, **2009**, 630-40	5.8	143
69	Directing stem cell fate by controlling the affinity and density of ligand-receptor interactions at the biomaterials interface. *Angewandte Chemie - International Edition*, **2012**, 51, 4891-5	16.4	135
68	Interfacial geometry dictates cancer cell tumorigenicity. *Nature Materials*, **2016**, 15, 856-62	27	123
67	Peptide-modified optical filters for detecting protease activity. *ACS Nano*, **2007**, 1, 355-61	16.7	107
66	Rewiring mesenchymal stem cell lineage specification by switching the biophysical microenvironment. *Scientific Reports*, **2014**, 4, 5188	4.9	102
65	Click chemistry in mesoporous materials: functionalization of porous silicon rugate filters. *Langmuir* , **2008**, 24, 5888-92	4	102
64	Anti-inflammatory ⊟ endocannabinoid epoxides. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E6034-E6043	11.5	97
63	The effect of mesenchymal stem cell shape on the maintenance of multipotency. *Biomaterials*, **2013**, 34, 3962-3969	15.6	94
62	Rapid 3D Extrusion of Synthetic Tumor Microenvironments. *Advanced Materials*, **2015**, 27, 5512-7	24	93
61	Production of complex nucleic acid libraries using highly parallel in situ oligonucleotide synthesis. *Nature Methods*, **2004**, 1, 241-8	21.6	89
60	Smart tissue culture: in situ monitoring of the activity of protease enzymes secreted from live cells using nanostructured photonic crystals. *Nano Letters*, **2009**, 9, 2021-5	11.5	83
59	Matrix composition and mechanics direct proangiogenic signaling from mesenchymal stem cells. *Tissue Engineering - Part A*, **2014**, 20, 2737-45	3.9	81

58	Si-C linked oligo(ethylene glycol) layers in silicon-based photonic crystals: optimization for implantable optical materials. *Biomaterials*, **2007**, 28, 3055-62	15.6	78
57	Peptide arrays identify isoform-selective substrates for profiling endogenous lysine deacetylase activity. *ACS Chemical Biology*, **2010**, 5, 863-73	4.9	76
56	Bridging the Gap: From 2D Cell Culture to 3D Microengineered Extracellular Matrices. *Advanced Healthcare Materials*, **2015**, 4, 2780-96	10.1	71
55	Single-step DNA immobilization on antifouling self-assembled monolayers covalently bound to silicon (111). *Langmuir*, **2006**, 22, 3494-6	4	66
54	Formation of tetra(ethylene oxide) terminated Si-C linked monolayers and their derivatization with glycine: an example of a generic strategy for the immobilization of biomolecules on silicon. *Langmuir*, **2005**, 21, 10522-9	4	65
53	Controlling cell geometry on substrates of variable stiffness can tune the degree of osteogenesis in human mesenchymal stem cells. *Journal of the Mechanical Behavior of Biomedical Materials*, **2014**, 38, 209-18	4.1	59
52	Modifying Porous Silicon with Self-Assembled Monolayers for Biomedical Applications: The Influence of Surface Coverage on Stability and Biomolecule Coupling. *Advanced Functional Materials*, **2008**, 18, 3827-3833	15.6	57
51	Introducing distinctly different chemical functionalities onto the internal and external surfaces of mesoporous materials. *Angewandte Chemie - International Edition*, **2008**, 47, 2697-9	16.4	55
50	Temporal Modulation of Stem Cell Activity Using Magnetoactive Hydrogels. *Advanced Healthcare Materials*, **2016**, 5, 2536-2544	10.1	54
49	Spacing of integrin ligands influences signal transduction in endothelial cells. *Biophysical Journal*, **2011**, 101, 764-73	2.9	53
48	Geometric guidance of integrin mediated traction stress during stem cell differentiation. *Biomaterials*, **2015**, 69, 174-83	15.6	51
47	Hybrid lipid bilayers in nanostructured silicon: a biomimetic mesoporous scaffold for optical detection of cholera toxin. *Chemical Communications*, **2007**, 1936-8	5.8	38
46	Matrix directed adipogenesis and neurogenesis of mesenchymal stem cells derived from adipose tissue and bone marrow. *Acta Biomaterialia*, **2016**, 42, 46-55	10.8	37
45	Influence of Biophysical Parameters on Maintaining the Mesenchymal Stem Cell Phenotype. *ACS Biomaterials Science and Engineering*, **2015**, 1, 218-226	5.5	32
44	Directing Stem Cell Fate by Controlling the Affinity and Density of Ligand–Receptor Interactions at the Biomaterials Interface. *Angewandte Chemie*, **2012**, 124, 4975-4979	3.6	32
43	Quantitative phase imaging reveals matrix stiffness-dependent growth and migration of cancer cells. *Scientific Reports*, **2019**, 9, 248	4.9	26
42	Peptide microarrays for the discovery of bioactive surfaces that guide cellular processes: a single step azide-alkyne "click" chemistry approach. *Journal of Materials Chemistry B*, **2014**, 2, 4280-4288	7.3	24
41	Mechanochemical functionalization of disulfide linked hydrogels. *Materials Horizons*, **2016**, 3, 447-451	14.4	23

40	Biofunctionalization of free-standing porous silicon films for self-assembly of photonic devices. *Soft Matter*, **2012**, 8, 360-366	3.6	23
39	Surveillance of Cancer Stem Cell Plasticity Using an Isoform-Selective Fluorescent Probe for Aldehyde Dehydrogenase 1A1. *ACS Central Science*, **2018**, 4, 1045-1055	16.8	21
38	Capturing extracellular matrix properties in vitro: Microengineering materials to decipher cell and tissue level processes. *Experimental Biology and Medicine*, **2016**, 241, 930-8	3.7	21
37	Materials control of the epigenetics underlying cell plasticity. *Nature Reviews Materials*, **2021**, 6, 69-83	73.3	21
36	Cell shape and the presentation of adhesion ligands guide smooth muscle myogenesis. *Journal of Biomedical Materials Research - Part A*, **2016**, 104, 1212-20	5.4	20
35	Melanoma topology reveals a stem-like phenotype that promotes angiogenesis. *Science Advances*, **2017**, 3, e1701350	14.3	18
34	Porous Chitosan Films Support Stem Cells and Facilitate Sutureless Tissue Repair. *ACS Applied Materials & Interfaces*, **2019**, 11, 32613-32622	9.5	15
33	Synthetic Bone-Like Structures Through Omnidirectional Ceramic Bioprinting in Cell Suspensions. *Advanced Functional Materials*, **2021**, 31, 2008216	15.6	15
32	Geometric regulation of histone state directs melanoma reprogramming. *Communications Biology*, **2020**, 3, 341	6.7	13
31	Porous chitosan adhesives with L-DOPA for enhanced photochemical tissue bonding. *Acta Biomaterialia*, **2020**, 101, 314-326	10.8	13
30	Matrix Mechanics Influence Fibroblast-Myofibroblast Transition by Directing the Localization of Histone Deacetylase 4. *Cellular and Molecular Bioengineering*, **2017**, 10, 405-415	3.9	12
29	Multimodal Assessment of Mesenchymal Stem Cell Therapy for Diabetic Vascular Complications. *Theranostics*, **2017**, 7, 3876-3888	12.1	12
28	Combinatorial Discovery of Defined Substrates That Promote a Stem Cell State in Malignant Melanoma. *ACS Central Science*, **2017**, 3, 381-393	16.8	10
27	Counting growth factors in single cells with infrared quantum dots to measure discrete stimulation distributions. *Nature Communications*, **2019**, 10, 909	17.4	10
26	Simultaneous cell traction and growth measurements using light. *Journal of Biophotonics*, **2019**, 12, e201800188	3.0	8
25	Organic modification of mesoporous silicon rugate filters: the influence of nanoarchitecture on optical behaviour. *International Journal of Nanotechnology*, **2008**, 5, 170	1.5	8
24	Patterned porous silicon photonic crystals with modular surface chemistry for spatial control of neural stem cell differentiation. *Nanoscale*, **2016**, 8, 10891-5	7.7	8
23	Force-mediated molecule release from double network hydrogels. *Chemical Communications*, **2021**, 57, 8484-8487	5.8	8

22	The structural fate of lipid nanoparticles in the extracellular matrix. *Materials Horizons*, **2020**, 7, 125-134	14.4	7
21	Cytoskeletal Priming of Mesenchymal Stem Cells to a Medicinal Phenotype. *Regenerative Engineering and Translational Medicine*, **2017**, 3, 5-14	2.4	6
20	Geometrically Structured Microtumors in 3D Hydrogel Matrices. *Advanced Biology*, **2020**, 4, e2000056	3.5	6
19	Effects of substrate patterning on cellular spheroid growth and dynamics measured by gradient light interference microscopy (GLIM). *Journal of Biophotonics*, **2019**, 12, e201900178	3.1	6
18	Substrate independent assembly of optical structures guided by biomolecular interactions. *ACS Applied Materials & Interfaces*, **2010**, 2, 3270-5	9.5	6
17	Gradient and Dynamic Hydrogel Materials to Probe Dynamics in Cancer Stem Cell Phenotypes. *ACS Applied Bio Materials*, **2021**, 4, 711-720	4.1	5
16	Micro-Engineered Models of Development Using Induced Pluripotent Stem Cells. *Frontiers in Bioengineering and Biotechnology*, **2019**, 7, 357	5.8	5
15	Heterotypic tumor models through freeform printing into photostabilized granular microgels. *Biomaterials Science*, **2021**, 9, 4496-4509	7.4	5
14	Spatially defined stem cell-laden hydrogel islands for directing endothelial tubulogenesis. *Journal of Materials Chemistry B*, **2015**, 3, 7896-7898	7.3	3
13	Pluripotent stem cell-derived mesenchymal stromal cells improve cardiac function and vascularity after myocardial infarction. *Cytotherapy*, **2021**, 23, 1074-1084	4.8	3
12	Physicochemical Tools for Visualizing and Quantifying Cell-Generated Forces. *ACS Chemical Biology*, **2020**, 15, 1731-1746	4.9	2
11	Enzyme Responsive Inverse Opal Hydrogels. *Macromolecular Rapid Communications*, **2020**, 41, e1900555	4.8	2
10	Synthetic Biomaterials to Rival Nature's Complexity-a Path Forward with Combinatorics, High-Throughput Discovery, and High-Content Analysis. *Advanced Healthcare Materials*, **2017**, 6, 1700535	10.1	2
9	Interfacial Curvature in Confined Coculture Directs Stromal Cell Activity with Spatial Corralling of Pancreatic Cancer Cells. *Advanced Biology*, **2021**, 5, e2000525		2
8	Antibody Self-Assembly Maximizes Cytoplasmic Immunostaining Accuracy of Compact Quantum Dots.. *Chemistry of Materials*, **2021**, 33, 4877-4889	9.6	2
7	Magnetic Nanocomposite Hydrogels for Directing Myofibroblast Activity in Adipose-Derived Stem Cells. *Advanced NanoBiomed Research*, **2021**, 1, 2000072	0	2
6	Vertical Integration of Cell-Laden Hydrogels with Bioinspired Photonic Crystal Membranes. *Advanced Materials Interfaces*, **2018**, 5, 1801233	4.6	2
5	Structural aspects controlling the mechanical and biological properties of tough, double network hydrogels. *Acta Biomaterialia*, **2021**, 138, 301-301	10.8	1

4	Targeting cell plasticity for regeneration: From in vitro to in vivo reprogramming. *Advanced Drug Delivery Reviews*, **2020**, 161-162, 124-144	18.5	1
3	Induction of muscle-regenerative multipotent stem cells from human adipocytes by PDGF-AB and 5-azacytidine. *Science Advances*, **2021**, 7,	14.3	1
2	Production of Antibacterial Activity and Bone Cell Proliferation by Surface Engineering of Ga- or Mn-Doped Ceria-Coated Biomedical Titanium Alloy. *Advanced Engineering Materials*,2200077	3.5	0
1	Porous Silicon: Vertical Integration of Cell-Laden Hydrogels with Bioinspired Photonic Crystal Membranes (Adv. Mater. Interfaces 23/2018). *Advanced Materials Interfaces*, **2018**, 5, 1870115	4.6	