

# Michael P Schwartz

## List of Publications by Year in descending order

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54  
papers

6,065  
citations

126907

33  
h-index

155660

55  
g-index

57  
all docs

57  
docs citations

57  
times ranked

8530  
citing authors

#	ARTICLE	IF	CITATIONS
1	Photoinitiated polymerization of PEG-diacrylate with lithium phenyl-2,4,6-trimethylbenzoylphosphinate: polymerization rate and cytocompatibility. <i>Biomaterials</i> , 2009, 30, 6702-6707.	11.4	951
2	Small functional groups for controlled differentiation of hydrogel-encapsulated human mesenchymal stem cells. <i>Nature Materials</i> , 2008, 7, 816-823.	27.5	745
3	A Versatile Synthetic Extracellular Matrix Mimic via Thiol-Norbornene Photopolymerization. <i>Advanced Materials</i> , 2009, 21, 5005-5010.	21.0	578
4	Magnetic Iron Oxide Nanoworms for Tumor Targeting and Imaging. <i>Advanced Materials</i> , 2008, 20, 1630-1635.	21.0	516
5	Cycloaddition Chemistry of Organic Molecules with Semiconductor Surfaces. <i>Accounts of Chemical Research</i> , 2000, 33, 617-624.	15.6	408
6	Human pluripotent stem cell-derived neural constructs for predicting neural toxicity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 12516-12521.	7.1	288
7	Engineering the Chemistry and Nanostructure of Porous Silicon Fabry-Pérot Films for Loading and Release of a Steroid. <i>Langmuir</i> , 2004, 20, 11264-11269.	3.5	161
8	The compatibility of hepatocytes with chemically modified porous silicon with reference to in vitro biosensors. <i>Biomaterials</i> , 2009, 30, 26-34.	11.4	148
9	DNA-Modified Diamond Surfaces. <i>Langmuir</i> , 2003, 19, 1938-1942.	3.5	134
10	PSEN1 <sup>Y9</sup> , APP <sup>swe</sup> , and APOE4 Confer Disparate Phenotypes in Human iPSC-Derived Microglia. <i>Stem Cell Reports</i> , 2019, 13, 669-683.	4.8	132
11	Porous SiO <sub>2</sub> Interferometric Biosensor for Quantitative Determination of Protein Interactions: Binding of Protein A to Immunoglobulins Derived from Different Species. <i>Analytical Chemistry</i> , 2007, 79, 327-334.	6.5	122
12	Human Vascular Tissue Models Formed from Human Induced Pluripotent Stem Cell Derived Endothelial Cells. <i>Stem Cell Reviews and Reports</i> , 2015, 11, 511-525.	5.6	107
13	Functional characterization of human pluripotent stem cell-derived arterial endothelial cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E6072-E6078.	7.1	105
14	The Smart Petri Dish: A Nanostructured Photonic Crystal for Real-Time Monitoring of Living Cells. <i>Langmuir</i> , 2006, 22, 7084-7090.	3.5	104
15	Interaction of $\pi$ -Conjugated Organic Molecules with $\pi$ -Bonded Semiconductor Surfaces: Structure, Selectivity, and Mechanistic Implications. <i>Journal of the American Chemical Society</i> , 2000, 122, 8529-8538.	13.7	88
16	Stable engineered vascular networks from human induced pluripotent stem cell-derived endothelial cells cultured in synthetic hydrogels. <i>Acta Biomaterialia</i> , 2016, 35, 32-41.	8.3	86
17	Versatile synthetic alternatives to Matrigel for vascular toxicity screening and stem cell expansion. <i>Nature Biomedical Engineering</i> , 2017, 1, .	22.5	86
18	A synthetic strategy for mimicking the extracellular matrix provides new insight about tumor cell migration. <i>Integrative Biology (United Kingdom)</i> , 2010, 2, 32-40.	1.3	79

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19	A peptide functionalized poly(ethylene glycol) (PEG) hydrogel for investigating the influence of biochemical and biophysical matrix properties on tumor cell migration. <i>Biomaterials Science</i> , 2014, 2, 1024.	5.4	74
20	Chemical modification of silicon surfaces for biological applications. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2005, 202, 1380-1384.	1.8	67
21	Interfacial Chemistry of Pentacene on Clean and Chemically Modified Silicon (001) Surfaces. <i>Journal of Physical Chemistry B</i> , 2003, 107, 11142-11148.	2.6	65
22	Differential effects of cell adhesion, modulus and VEGFR-2 inhibition on capillary network formation in synthetic hydrogel arrays. <i>Biomaterials</i> , 2014, 35, 2149-2161.	11.4	62
23	Extracellular matrix protein adsorption to phosphate-functionalized gels from serum promotes osteogenic differentiation of human mesenchymal stem cells. <i>Acta Biomaterialia</i> , 2013, 9, 4525-4534.	8.3	59
24	Sulfur Atoms as Tethers for Selective Attachment of Aromatic Molecules to Silicon(001) Surfaces. <i>Journal of Physical Chemistry B</i> , 2001, 105, 3079-3087.	2.6	58
25	Wnt5a Directs Polarized Calcium Gradients by Recruiting Cortical Endoplasmic Reticulum to the Cell Trailing Edge. <i>Developmental Cell</i> , 2013, 26, 645-657.	7.0	55
26	The role of Pi-conjugation in attachment of organic molecules to the silicon (001) surface. <i>Surface Science</i> , 2002, 515, 75-86.	1.9	51
27	Using a porous silicon photonic crystal for bacterial cell-based biosensing. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007, 204, 1439-1443.	1.8	51
28	Formation of $\pi$ -conjugated molecular arrays on silicon (001) surfaces by heteroatomic Diels-Alder chemistry. <i>Surface Science</i> , 2002, 514, 362-375.	1.9	46
29	Biomaterial arrays with defined adhesion ligand densities and matrix stiffness identify distinct phenotypes for tumorigenic and non-tumorigenic human mesenchymal cell types. <i>Biomaterials Science</i> , 2014, 2, 745-756.	5.4	44
30	Species-specific developmental timing is maintained by pluripotent stem cells ex utero. <i>Developmental Biology</i> , 2017, 423, 101-110.	2.0	43
31	A Genome-wide Analysis of Human Pluripotent Stem Cell-Derived Endothelial Cells in 2D or 3D Culture. <i>Stem Cell Reports</i> , 2017, 8, 907-918.	4.8	41
32	A synthetic modular approach for modeling the role of the 3D microenvironment in tumor progression. <i>Scientific Reports</i> , 2015, 5, 17814.	3.3	39
33	Biomimetic Approaches to Control Soluble Concentration Gradients in Biomaterials. <i>Macromolecular Bioscience</i> , 2011, 11, 483-492.	4.1	38
34	Micropatterning of 3D Microenvironments for Living Biosensor Applications. <i>Biosensors</i> , 2014, 4, 28-44.	4.7	34
35	A Quantitative Comparison of Human HT-1080 Fibrosarcoma Cells and Primary Human Dermal Fibroblasts Identifies a 3D Migration Mechanism with Properties Unique to the Transformed Phenotype. <i>PLoS ONE</i> , 2013, 8, e81689.	2.5	32
36	Keratinocyte proximity and contact can play a significant role in determining mesenchymal stem cell fate in human tissue. <i>FASEB Journal</i> , 2011, 25, 122-131.	0.5	31

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37	Uniform neural tissue models produced on synthetic hydrogels using standard culture techniques. <i>Experimental Biology and Medicine</i> , 2017, 242, 1679-1689.	2.4	31
38	3D iPSC modeling of the retinal pigment epithelium-choriocapillaris complex identifies factors involved in the pathology of macular degeneration. <i>Cell Stem Cell</i> , 2021, 28, 846-862.e8.	11.1	30
39	Human iPSC-derived endothelial cell sprouting assay in synthetic hydrogel arrays. <i>Acta Biomaterialia</i> , 2016, 39, 12-24.	8.3	27
40	Using an oxidized porous silicon interferometer for determination of relative protein binding affinity through non-covalent capture probe immobilization. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007, 204, 1444-1448.	1.8	26
41	Human Induced Pluripotent Stem Cell Derived Neuronal Cells Cultured on Chemically-Defined Hydrogels for Sensitive In Vitro Detection of Botulinum Neurotoxin. <i>Scientific Reports</i> , 2015, 5, 14566.	3.3	26
42	Adsorption of Acrylonitrile on Diamond and Silicon (001) (2 Å <sup>-1</sup> ) Surfaces: Effects of Dimer Structure on Reaction Pathways and Product Distributions. <i>Journal of the American Chemical Society</i> , 2005, 127, 8348-8354.	13.7	24
43	Reaction of acetonitrile with the silicon(001) surface: A combined XPS and FTIR study. <i>Surface Science</i> , 2007, 601, 945-953.	1.9	24
44	Anionic nanoparticle-induced perturbation to phospholipid membranes affects ion channel function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 27854-27861.	7.1	24
45	Formation of an Atomically Abrupt Interface between a Polycyclic Aromatic Molecule and the Silicon (001) Surface via Direct Si-C Linkage. <i>Journal of Physical Chemistry B</i> , 2003, 107, 224-228.	2.6	19
46	A chemically-defined screening platform reveals behavioral similarities between primary human mesenchymal stem cells and endothelial cells. <i>Integrative Biology (United Kingdom)</i> , 2012, 4, 1508-1521.	1.3	18
47	The Influence of Biomaterials on Cytokine Production in 3D Cultures. <i>Biomacromolecules</i> , 2017, 18, 709-718.	5.4	18
48	A human pluripotent stem cell platform for assessing developmental neural toxicity screening. <i>Stem Cell Research and Therapy</i> , 2013, 4, S12.	5.5	17
49	Quantitative Label-Free Imaging of 3D Vascular Networks Self-Assembled in Synthetic Hydrogels. <i>Advanced Healthcare Materials</i> , 2019, 8, e1801186.	7.6	15
50	Semiconductor Surface-Induced 1,3-Hydrogen Shift: The Role of Covalent vs Zwitterionic Character. <i>Journal of the American Chemical Society</i> , 2006, 128, 11054-11061.	13.7	12
51	Interspecies chimeric conditions affect the developmental rate of human pluripotent stem cells. <i>PLoS Computational Biology</i> , 2021, 17, e1008778.	3.2	11
52	A simplified biomolecule attachment strategy for biosensing using a porous Si oxide interferometer. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007, 204, 1394-1398.	1.8	6
53	Subtoxic dose of lithium cobalt oxide nanosheets impacts critical molecular pathways in trout gill epithelial cells. <i>Environmental Science: Nano</i> , 2020, 7, 3419-3430.	4.3	4
54	Improving Climate and Outcomes for Underrepresented Chemistry Graduate Students at a Major Research University: A Case Study. <i>Journal of Chemical Education</i> , 2022, 99, 452-460.	2.3	4