

# Todd A Sulchek

## List of Publications by Year in descending order

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Version: 2024-02-01

91  
papers

4,270  
citations

136885

32  
h-index

118793

62  
g-index

93  
all docs

93  
docs citations

93  
times ranked

7137  
citing authors

#	ARTICLE	IF	CITATIONS
1	In vivo imaging of nanoparticle-labeled CAR T cells. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	40
2	Fabrication and Characterization of A Rigid Microfluidic Mechanoporation Device with High Pressure Tolerance and High Cell Transfection. , 2022, . .		0
3	In-cell NMR based technology to study protein interactions. Biophysical Journal, 2022, 121, 317a.	0.2	1
4	Mechanoporation enables rapid and efficient radiolabeling of stem cells for PET imaging. Scientific Reports, 2022, 12, 2955.	1.6	2
5	Microfluidics delivery of DARPP-32 into HeLa cells maintains viability for in-cell NMR spectroscopy. Communications Biology, 2022, 5, 451.	2.0	5
6	Scaling microfluidic throughput with flow-balanced manifolds to simply control devices with multiple inlets and outlets. Biomicrofluidics, 2022, 16, 034104.	1.2	3
7	Modulating local S1P receptor signaling as a regenerative immunotherapy after volumetric muscle loss injury. Journal of Biomedical Materials Research - Part A, 2021, 109, 695-712.	2.1	12
8	Anti-fibrotic activity of a rho-kinase inhibitor restores outflow function and intraocular pressure homeostasis. ELife, 2021, 10, .	2.8	32
9	Nanofiber-Based Delivery of Bioactive Lipids Promotes Pro-regenerative Inflammation and Enhances Muscle Fiber Growth After Volumetric Muscle Loss. Frontiers in Bioengineering and Biotechnology, 2021, 9, 650289.	2.0	6
10	Tuning Antibody Presentation to Enhance T-Cell Activation for Downstream Cytotoxicity. Langmuir, 2021, 37, 4783-4792.	1.6	0
11	Heterofunctional Particles as Single Cell Sensors to Capture Secreted Immunoglobulins and Isolate Antigen-specific Antibody Secreting Cells. Advanced Healthcare Materials, 2021, 10, 2001947.	3.9	5
12	Microfluidic processing of stem cells for autologous cell replacement. Stem Cells Translational Medicine, 2021, 10, 1384-1393.	1.6	6
13	Reconstructing the intrinsic potential energy landscape of interfacial interactions with thermally modulated force spectroscopy. Physical Review Research, 2021, 3, .	1.3	0
14	Microfluidic Platform to Transduce Cell Viability to Distinct Flow Pathways for High-Accuracy Sensing. ACS Sensors, 2021, 6, 3789-3799.	4.0	8
15	Label-free microfluidic enrichment of cancer cells from non-cancer cells in ascites. Scientific Reports, 2021, 11, 18032.	1.6	7
16	Microfluidic transfection of mRNA into human primary lymphocytes and hematopoietic stem and progenitor cells using ultra-fast physical deformations. Scientific Reports, 2021, 11, 21407.	1.6	17
17	Assessing the Physiologic Relevance of Red Blood Cell Deformability in Iron Deficiency Anemia. Blood, 2021, 138, 4153-4153.	0.6	1
18	Effects of Surface Topography and Chemistry on Polyether-Ether-Ketone (PEEK) and Titanium Osseointegration. Spine, 2020, 45, E417-E424.	1.0	26

#	ARTICLE	IF	CITATIONS
19	Cell Mechanical and Physiological Behavior in the Regime of Rapid Mechanical Compressions that Lead to Cell Volume Change. <i>Small</i> , 2020, 16, e1903857.	5.2	28
20	Label-free microfluidic enrichment of photoreceptor cells. <i>Experimental Eye Research</i> , 2020, 199, 108166.	1.2	6
21	Stiffness based enrichment of leukemia cells using microfluidics. <i>APL Bioengineering</i> , 2020, 4, 036101.	3.3	7
22	Electrosynthesis of Ammonia Using Porous Bimetallic Pd-Ag Nanocatalysts in Liquid- and Gas-Phase Systems. <i>ACS Catalysis</i> , 2020, 10, 10197-10206.	5.5	33
23	Instant labeling of therapeutic cells for multimodality imaging. <i>Theranostics</i> , 2020, 10, 6024-6034.	4.6	17
24	Decreased cell stiffness enhances leukemia development and progression. <i>Leukemia</i> , 2020, 34, 2493-2497.	3.3	8
25	Optimizing Flux Capacity of Dead-end Filtration Membranes by Controlling Flow with Pulse Width Modulated Periodic Backflush. <i>Scientific Reports</i> , 2020, 10, 896.	1.6	10
26	Optimization of Microparticle Reagents to Collect and Detect Antibody. <i>Langmuir</i> , 2019, 35, 11717-11724.	1.6	3
27	Domain-specific mechanical modulation of VWF-ADAMTS13 interaction. <i>Molecular Biology of the Cell</i> , 2019, 30, 1920-1929.	0.9	10
28	Ptpn21 Controls Hematopoietic Stem Cell Homeostasis and Biomechanics. <i>Cell Stem Cell</i> , 2019, 24, 608-620.e6.	5.2	35
29	Bacterial Growth and Death on Cotton Fabrics Conformally Coated with ZnO Thin Films of Varying Thicknesses via Atomic Layer Deposition (ALD). <i>Jom</i> , 2019, 71, 178-184.	0.9	19
30	Microfluidic cell sorting by stiffness to examine heterogenic responses of cancer cells to chemotherapy. <i>Cell Death and Disease</i> , 2018, 9, 239.	2.7	52
31	The relationship between outflow resistance and trabecular meshwork stiffness in mice. <i>Scientific Reports</i> , 2018, 8, 5848.	1.6	57
32	Aqueous Zinc Compounds as Residual Antimicrobial Agents for Textiles. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 7709-7716.	4.0	31
33	Microfluidic generation of transient cell volume exchange for convectively driven intracellular delivery of large macromolecules. <i>Materials Today</i> , 2018, 21, 703-712.	8.3	51
34	Biomechanics of Endothelial Tubule Formation Differentially Modulated by Cerebral Cavernous Malformation Proteins. <i>IScience</i> , 2018, 9, 347-358.	1.9	8
35	Porous PEEK improves the bone-implant interface compared to plasma-sprayed titanium coating on PEEK. <i>Biomaterials</i> , 2018, 185, 106-116.	5.7	155
36	Improving T-cell expansion and function for adoptive T-cell therapy using ex vivo treatment with PI3K inhibitors and VIP antagonists. <i>Blood Advances</i> , 2018, 2, 210-223.	2.5	87

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37	High Force Sensitivity Composite Nanofluidic AFM Cantilever. Journal of Microelectromechanical Systems, 2018, 27, 613-624.	1.7	0
38	Periostin promotes liver fibrogenesis by activating lysyl oxidase in hepatic stellate cells. Journal of Biological Chemistry, 2018, 293, 12781-12792.	1.6	51
39	Biophysical subsets of embryonic stem cells display distinct phenotypic and morphological signatures. PLoS ONE, 2018, 13, e0192631.	1.1	20
40	Î±vÎ²3 Integrin drives fibroblast contraction and strain stiffening of soft provisional matrix during progressive fibrosis. JCI Insight, 2018, 3, .	2.3	78
41	Accurately tracking single-cell movement trajectories in microfluidic cell sorting devices. PLoS ONE, 2018, 13, e0192463.	1.1	13
42	Fc microparticles can modulate the physical extent and magnitude of complement activity. Biomaterials Science, 2017, 5, 463-474.	2.6	15
43	Normal saline is associated with increased sickle red cell stiffness and prolonged transit times in a microfluidic model of the capillary system. Microcirculation, 2017, 24, e12353.	1.0	23
44	Reconstructing Multiwell Potentials with Steep Gradients Using Stochastically Excited Spring Probes. Journal of Physical Chemistry C, 2017, 121, 7248-7258.	1.5	1
45	Microfluidic Sorting of Cells by Viability Based on Differences in Cell Stiffness. Scientific Reports, 2017, 7, 1997.	1.6	59
46	Nuclear Membrane-Targeted Gold Nanoparticles Inhibit Cancer Cell Migration and Invasion. ACS Nano, 2017, 11, 3716-3726.	7.3	135
47	Continuous Sorting of Cells Based on Differential P Selectin Glycoprotein Ligand Expression Using Molecular Adhesion. Analytical Chemistry, 2017, 89, 11545-11551.	3.2	11
48	Trabecular meshwork stiffness in glaucoma. Experimental Eye Research, 2017, 158, 3-12.	1.2	120
49	Single-platelet nanomechanics measured by high-throughput cytometry. Nature Materials, 2017, 16, 230-235.	13.3	88
50	Enhancing size based size separation through vertical focus microfluidics using secondary flow in a ridged microchannel. Scientific Reports, 2017, 7, 17375.	1.6	15
51	Estimating Human Trabecular Meshwork Stiffness by Numerical Modeling and Advanced OCT Imaging. , 2017, 58, 4809.		66
52	Enhanced stochastic fluctuations to measure steep adhesive energy landscapes. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14213-14218.	3.3	4
53	Force and torque on spherical particles in micro-channel flows using computational fluid dynamics. Royal Society Open Science, 2016, 3, 160298.	1.1	7
54	Optical method for automated measurement of glass micropipette tip geometry. Precision Engineering, 2016, 46, 88-95.	1.8	6

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55	Cellular Stiffness as a Novel Stemness Marker in the Corneal Limbus. <i>Biophysical Journal</i> , 2016, 111, 1761-1772.	0.2	29
56	A Liquid-Handling Robot for Automated Attachment of Biomolecules to Microbeads. <i>Journal of the Association for Laboratory Automation</i> , 2016, 21, 526-532.	2.8	4
57	Synthetic matrices reveal contributions of ECM biophysical and biochemical properties to epithelial morphogenesis. <i>Journal of Cell Biology</i> , 2016, 212, 113-124.	2.3	100
58	Cellular softening mediates leukocyte demargination and trafficking, thereby increasing clinical blood counts. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 1987-1992.	3.3	82
59	Microfluidic to Nanofluidic Interface via a Thermally Decomposable Sacrificial Polymer. <i>Journal of Microelectromechanical Systems</i> , 2015, 24, 1741-1746.	1.7	2
60	Three-dimensional particle tracking in microfluidic channel flow using in and out of focus diffraction. <i>Flow Measurement and Instrumentation</i> , 2015, 45, 218-224.	1.0	9
61	Cellular enrichment through microfluidic fractionation based on cell biomechanical properties. <i>Microfluidics and Nanofluidics</i> , 2015, 19, 987-993.	1.0	15
62	Microfluidic cellular enrichment and separation through differences in viscoelastic deformation. <i>Lab on A Chip</i> , 2015, 15, 532-540.	3.1	53
63	Integrated two-cylinder liquid piston Stirling engine. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	9
64	Mechanical stiffness as an improved single-cell indicator of osteoblastic human mesenchymal stem cell differentiation. <i>Journal of Biomechanics</i> , 2014, 47, 2197-2204.	0.9	61
65	Spatiotemporal Mechanical Variation Reveals Critical Role for Rho Kinase During Primitive Streak Morphogenesis. <i>Annals of Biomedical Engineering</i> , 2013, 41, 421-432.	1.3	8
66	Physical and chemical microenvironmental cues orthogonally control the degree and duration of fibrosis-associated epithelial-to-mesenchymal transitions. <i>Journal of Pathology</i> , 2013, 229, 25-35.	2.1	125
67	Molecular analysis of the inhibitory effect of N-acetyl-L-cysteine on the proliferation and invasiveness of pancreatic cancer cells. <i>Anti-Cancer Drugs</i> , 2013, 24, 504-518.	0.7	10
68	TUNABLE COMPLEMENT ACTIVATION BY PARTICLES WITH VARIABLE SIZE AND Fc DENSITY. <i>Nano LIFE</i> , 2013, 03, 1341001.	0.6	16
69	Effects of Microparticle Size and Fc Density on Macrophage Phagocytosis. <i>PLoS ONE</i> , 2013, 8, e60989.	1.1	161
70	Stiffness Dependent Separation of Cells in a Microfluidic Device. <i>PLoS ONE</i> , 2013, 8, e75901.	1.1	86
71	White Blood Cell Mechanics Mediate Glucocorticoid- and Catecholamine-Induced Demargination. <i>Blood</i> , 2013, 122, 3459-3459.	0.6	0
72	Bifunctional Janus Microparticles with Spatially Segregated Proteins. <i>Langmuir</i> , 2012, 28, 10033-10039.	1.6	32

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73	Constant tip-surface distance with atomic force microscopy via quality factor feedback. Review of Scientific Instruments, 2012, 83, 023706.	0.6	4
74	Cell Stiffness Is a Biomarker of the Metastatic Potential of Ovarian Cancer Cells. PLoS ONE, 2012, 7, e46609.	1.1	596
75	Maleimide Cross-Linked Bioactive PEG Hydrogel Exhibits Improved Reaction Kinetics and Cross-Linking for Cell Encapsulation and In Situ Delivery. Advanced Materials, 2012, 24, 64-70.	11.1	458
76	Bioactive Hydrogels: Maleimide Cross-Linked Bioactive PEG Hydrogel Exhibits Improved Reaction Kinetics and Cross-Linking for Cell Encapsulation and In Situ Delivery (Adv. Mater. 1/2012). Advanced Materials, 2012, 24, 2-2.	11.1	6
77	High-Throughput Nanomechanical Platelet Contraction Measurements Using Patterned Hydrogels.. Blood, 2012, 120, 2172-2172.	0.6	0
78	Extreme Hardening of PDMS Thin Films Due to High Compressive Strain and Confined Thickness. Langmuir, 2011, 27, 8470-8477.	1.6	51
79	Curcumin nanodisks: formulation and characterization. Nanomedicine: Nanotechnology, Biology, and Medicine, 2011, 7, 162-167.	1.7	127
80	Nanomechanics of Platelet Contractility. Blood, 2011, 118, 2202-2202.	0.6	0
81	Decoupling Internalization, Acidification and Phagosomal-Endosomal/lysosomal Fusion during Phagocytosis of InA Coated Beads in Epithelial Cells. PLoS ONE, 2009, 4, e6056.	1.1	38
82	Characterization and Purification of Polydisperse Reconstituted Lipoproteins and Nanolipoprotein Particles. International Journal of Molecular Sciences, 2009, 10, 2958-2971.	1.8	19
83	Single-Molecule Approach to Understanding Multivalent Binding Kinetics. Annals of the New York Academy of Sciences, 2009, 1161, 74-82.	1.8	6
84	Atomic force microscopy differentiates discrete size distributions between membrane protein containing and empty nanolipoprotein particles. Biochimica Et Biophysica Acta - Biomembranes, 2009, 1788, 724-731.	1.4	34
85	Insertion of Membrane Proteins into Discoidal Membranes Using a Cell-Free Protein Expression Approach. Journal of Proteome Research, 2008, 7, 3535-3542.	1.8	127
86	Cell-free Co-expression of Functional Membrane Proteins and Apolipoprotein, Forming Soluble Nanolipoprotein Particles. Molecular and Cellular Proteomics, 2008, 7, 2246-2253.	2.5	109
87	Quantifying size distributions of nanolipoprotein particles with single-particle analysis and molecular dynamic simulations. Journal of Lipid Research, 2008, 49, 1420-1430.	2.0	49
88	Different Apolipoproteins Impact Nanolipoprotein Particle Formation. Journal of the American Chemical Society, 2007, 129, 14348-14354.	6.6	80
89	Counting and Breaking Individual Biological Bonds: Force Spectroscopy of Tethered Ligand-Receptor Pairs. Current Nanoscience, 2007, 3, 41-48.	0.7	10
90	Strength of Multiple Parallel Biological Bonds. Biophysical Journal, 2006, 90, 4686-4691.	0.2	87

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91	Dynamic force spectroscopy of parallel individual Mucin1-antibody bonds. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 16638-16643.	3.3	163