Christopher B Raub

List of Publications by Year
in descending order

43 papers	1,589 citations	516710 16 h-index	330143 37 g-index
44 all docs	44 docs citations	44 times ranked	2302 citing authors

#	Article	IF	Citations
1	Noninvasive Assessment of Collagen Gel Microstructure and Mechanics Using Multiphoton Microscopy. Biophysical Journal, 2007, 92, 2212-2222.	0.5	321
2	The use of poly(ethylene glycol) hydrogels to investigate the impact of ECM chemistry and mechanics on smooth muscle cells. Biomaterials, 2006, 27, 4881-4893.	11.4	318
3	Image Correlation Spectroscopy of Multiphoton Images Correlates with Collagen Mechanical Properties. Biophysical Journal, 2008, 94, 2361-2373.	0.5	168
4	Automatic phase aberration compensation for digital holographic microscopy based on deep learning background detection. Optics Express, 2017, 25, 15043.	3.4	159
5	Airway Epithelium Stimulates Smooth Muscle Proliferation. American Journal of Respiratory Cell and Molecular Biology, 2009, 41, 297-304.	2.9	69
6	Quantitative assessment of cancer cell morphology and motility using telecentric digital holographic microscopy and machine learning. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2018, 93, 334-345.	1.5	53
7	IL-13 induces a bronchial epithelial phenotype that is profibrotic. Respiratory Research, 2008, 9, 27.	3.6	51
8	Anisotropic, Mesoporous Microfluidic Frameworks with Scalable, Aligned Cellulose Nanofibers. ACS Applied Materials & Interfaces, 2018, 10, 7362-7370.	8.0	49
9	Electrical Programming of Soft Matter: Using Temporally Varying Electrical Inputs To Spatially Control Self Assembly. Biomacromolecules, 2018, 19, 364-373.	5.4	46
10	Oral mucosa-on-a-chip to assess layer-specific responses to bacteria and dental materials. Biomicrofluidics, 2018, 12, 054106.	2.4	41
11	Quantitative scoring of epithelial and mesenchymal qualities of cancer cells using machine learning and quantitative phase imaging. Journal of Biomedical Optics, 2020, 25, 1.	2.6	33
12	A novel three-dimensional model to quantify metastatic melanoma invasion. Molecular Cancer Therapeutics, 2007, 6, 552-561.	4.1	25
13	Linking optics and mechanics in an in vivo model of airway fibrosis and epithelial injury. Journal of Biomedical Optics, 2010, 15, 015004.	2.6	23
14	An Oral-mucosa-on-a-chip sensitively evaluates cell responses to dental monomers. Biomedical Microdevices, 2021, 23, 7.	2.8	22
15	Sequestration of bacteria from whole blood by optimized microfluidic cross-flow filtration for Rapid Antimicrobial Susceptibility Testing. Sensors and Actuators B: Chemical, 2015, 210, 120-123.	7.8	21
16	Machine Learning with Optical Phase Signatures for Phenotypic Profiling of Cell Lines. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2019, 95, 757-768.	1.5	21
17	Modulating the properties of flow-assembled chitosan membranes in microfluidics with glutaraldehyde crosslinking. Journal of Materials Chemistry B, 2020, 8, 2519-2529.	5.8	18
18	Pulsed focused ultrasound lowers interstitial fluid pressure and increases nanoparticle delivery and penetration in head and neck squamous cell carcinoma xenograft tumors. Physics in Medicine and Biology, 2020, 65, 125017.	3.0	16

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19	Tuning the porosity of biofabricated chitosan membranes in microfluidics with co-assembled nanoparticles as templates. Materials Advances, 2020, 1, 34-44.	5.4	14
20	Magnetic nanoparticle-loaded alginate beads for local micro-actuation of in vitro tissue constructs. Colloids and Surfaces B: Biointerfaces, 2017, 159, 945-955.	5.0	12
21	Keratin 19 maintains E-cadherin localization at the cell surface and stabilizes cell-cell adhesion of MCF7 cells. Cell Adhesion and Migration, 2021, 15, 1-17.	2.7	12
22	Morphology, Motility, and Cytoskeletal Architecture of Breast Cancer Cells Depend on Keratin 19 and Substrate. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2020, 97, 1145-1155.	1.5	11
23	Integrating qPLM and biomechanical test data with an anisotropic fiber distribution model and predictions of TGF- $$upbeta $$ 1 and IGF-1 regulation of articular cartilage fiber modulus. Biomechanics and Modeling in Mechanobiology, 2013, 12, 1073-1088.	2.8	9
24	Mueller matrix polarimetry and polar decomposition of articular cartilage imaged in reflectance. Biomedical Optics Express, 2021, 12, 5160.	2.9	9
25	HistoMosaic Detecting KRAS G12V Mutation Across Colorectal Cancer Tissue Slices through in Situ PCR. Analytical Chemistry, 2016, 88, 2792-2798.	6.5	7
26	Matting Calcium Crystals by Melamine Improves Stabilization and Prevents Dissolution. Crystal Growth and Design, 2019, 19, 6636-6648.	3.0	7
27	Microfluidic fabrication of stable collagen microgels with aligned microstructure using flow-driven co-deposition and ionic gelation. Journal of Micromechanics and Microengineering, 2020, 30, 085002.	2.6	7
28	Microstructural densification and alignment by aspirationâ€ejection influence cancer cell interactions with threeâ€dimensional collagen networks. Biotechnology and Bioengineering, 2020, 117, 1826-1838.	3.3	7
29	Noninvasive assessment of articular cartilage surface damage using reflected polarized light microscopy. Journal of Biomedical Optics, 2017, 22, 065001.	2.6	6
30	Tracking Single Cells Motility on Different Substrates. Methods and Protocols, 2020, 3, 56.	2.0	5
31	Dual-modality digital holographic and polarization microscope to quantify phase and birefringence signals in biospecimens with a complex microstructure. Biomedical Optics Express, 2022, 13, 805.	2.9	5
32	Development of a custom biological scaffold for investigating ultrasound-mediated intracellular delivery. Materials Science and Engineering C, 2017, 70, 461-470.	7.3	4
33	Simulation of digital holographic recording and reconstruction using a generalized matrix method. Applied Optics, 2021, 60, A21.	1.8	4
34	Polarized reflectance from articular cartilage depends upon superficial zone collagen network microstructure. Biomedical Optics Express, 2019, 10, 5518.	2.9	4
35	Computational multi-wavelength phase synthesis using convolutional neural networks [Invited]. Applied Optics, 2022, 61, B132.	1.8	4
36	Holography, machine learning, and cancer cells. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2017, 91, 754-756.	1.5	3

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37	Noninvasive surface damage assessment of bovine articular cartilage explants by reflected polarized light microscopy. , 2016, 2016, 2897-2900.		2
38	Synthetic training of machine learning algorithms for holographic cell imaging. , 2021, , .		2
39	Correlations between second harmonic signal, microstructure, and mechanics of contracting collagen gels. Proceedings of SPIE, 2008, , .	0.8	1
40	Glycosaminoglycan and Collagen Remodeling During In Vitro Dynamic Compression of Articular Cartilage: Experiments and Finite Element Modeling. , 2013, , .		0
41	Regulation of Articular Cartilage Volumetric and Compressive Properties by Sequential Application of IGF-1 and TGF-Î²1 During In Vitro Growth. , 2010, , .		0
42	Integrating qPLM and Biomechanical Test Data With an Anisotropic Fiber Distribution Model and In Vitro Regulation of Articular Cartilage Fiber Modulus. , 2013, , .		0
43	Machine learning and phase signatures in cell line classification. , 2019, , .		0