Marco Rasponi

List of Publications by Year
in descending order

76 papers	2,752 citations	257101 24 h-index	189595 50 g-index
82 all docs	82 docs citations	82 times ranked	3967 citing authors

#	Article	IF	Citations
1	Bioprinting 3D microfibrous scaffolds for engineering endothelialized myocardium and heart-on-a-chip. Biomaterials, 2016, 110, 45-59.	5.7	699
2	Beating heart on a chip: a novel microfluidic platform to generate functional 3D cardiac microtissues. Lab on A Chip, 2016, 16, 599-610.	3.1	322
3	Hyperphysiological compression of articular cartilage induces an osteoarthritic phenotype in a cartilage-on-a-chip model. Nature Biomedical Engineering, 2019, 3, 545-557.	11.6	126
4	Controlled electromechanical cell stimulation on-a-chip. Scientific Reports, 2015, 5, 11800.	1.6	97
5	VAâ€086 methacrylate gelatine photopolymerizable hydrogels: A parametric study for highly biocompatible 3<scp>D</scp> cell embedding. Journal of Biomedical Materials Research - Part A, 2015, 103, 2109-2117.	2.1	94
6	High-Throughput Microfluidic Platform for 3D Cultures of Mesenchymal Stem Cells, Towards Engineering Developmental Processes. Scientific Reports, 2015, 5, 10288.	1.6	76
7	Integrating Biosensors in Organs-on-Chip Devices: A Perspective on Current Strategies to Monitor Microphysiological Systems. Biosensors, 2020, 10, 110.	2.3	65
8	Microfabricated polyester conical microwells for cell culture applications. Lab on A Chip, 2011, 11, 2325.	3.1	57
9	Fabrication of 3D cell-laden hydrogel microstructures through photo-mold patterning. Biofabrication, 2013, 5, 035002.	3.7	55
10	Developmentally inspired programming of adult human mesenchymal stromal cells toward stable chondrogenesis. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4625-4630.	3.3	53
11	Onâ€chip assessment of human primary cardiac fibroblasts proliferative responses to uniaxial cyclic mechanical strain. Biotechnology and Bioengineering, 2016, 113, 859-869.	1.7	50
12	How to embed three-dimensional flexible electrodes in microfluidic devices for cell culture applications. Lab on A Chip, 2011, 11, 1593.	3.1	49
13	Reconstitution of the Human Nigro-striatal Pathway on-a-Chip Reveals OPA1-Dependent Mitochondrial Defects and Loss of Dopaminergic Synapses. Cell Reports, 2019, 29, 4646-4656.e4.	2.9	42
14	Frataxin gene editing rescues Friedreichâ€™s ataxia pathology in dorsal root ganglia organoid-derived sensory neurons. Nature Communications, 2020, 11, 4178.	5.8	42
15	Human cardiac fibroblasts adaptive responses to controlled combined mechanical strain and oxygen changes in vitro. ELife, 2017, 6, .	2.8	41
16	Anisotropic material synthesis by capillary flow in a fluid stripe. Biomaterials, 2011, 32, 6493-6504.	5.7	39
17	Multi-gradient hydrogels produced layer by layer with capillary flow and crosslinking in open microchannels. Lab on A Chip, 2012, 12, 659-661.	3.1	39
18	Cardiac Meets Skeletal: Whatâ€™s New in Microfluidic Models for Muscle Tissue Engineering. Molecules, 2016, 21, 1128.	1.7	39

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19	A microfluidic platform for controlled biochemical stimulation of twin neuronal networks. Biomicrofluidics, 2012, 6, 024106.	1.2	37
20	A microscale biomimetic platform for generation and electro-mechanical stimulation of 3D cardiac microtissues. APL Bioengineering, 2018, 2, 046102.	3.3	36
21	A three-dimensional <i>in vitro</i> dynamic micro-tissue model of cardiac scar formation. Integrative Biology (United Kingdom), 2018, 10, 174-183.	0.6	33
22	Recapitulating monocyte extravasation to the synovium in an organotypic microfluidic model of the articular joint. Biofabrication, 2021, 13, 045001.	3.7	32
23	Enhancing all-in-one bioreactors by combining interstitial perfusion, electrical stimulation, on-line monitoring and testing within a single chamber for cardiac constructs. Scientific Reports, 2018, 8, 16944.	1.6	30
24	Experimental liver models: From cell culture techniques to microfluidic organsâ€onâ€chip. Liver International, 2021, 41, 1744-1761.	1.9	28
25	Validation of longâ€term primary neuronal cultures and network activity through the integration of reversibly bonded microbioreactors and MEA substrates. Biotechnology and Bioengineering, 2012, 109, 166-175.	1.7	27
26	Reliable magnetic reversible assembly of complex microfluidic devices: fabrication, characterization, and biological validation. Microfluidics and Nanofluidics, 2011, 10, 1097-1107.	1.0	25
27	Numerical and experimental characterization of a novel modular passive micromixer. Biomedical Microdevices, 2012, 14, 849-862.	1.4	25
28	Gelatin hydrogels via thiol-ene chemistry. Monatshefte FÃ¼r Chemie, 2016, 147, 587-592.	0.9	24
29	Physiologic flow-conditioning limits vascular dysfunction in engineered human capillaries. Biomaterials, 2022, 280, 121248.	5.7	23
30	Microfluidic emulation of mechanical circulatory support device shear-mediated platelet activation. Biomedical Microdevices, 2015, 17, 117.	1.4	22
31	Generating Multicompartmental 3D Biological Constructs Interfaced through Sequential Injections in Microfluidic Devices. Advanced Healthcare Materials, 2017, 6, 1601170.	3.9	22
32	Micro-electrode channel guide (ÂµECG) technology: an online method for continuous electrical recording in a human beating heart-on-chip. Biofabrication, 2021, 13, 035026.	3.7	22
33	Current strategies of mechanical stimulation for maturation of cardiac microtissues. Biophysical Reviews, 2021, 13, 717-727.	1.5	21
34	Generation of functional cardiac microtissues in a beating heart-on-a-chip. Methods in Cell Biology, 2018, 146, 69-84.	0.5	20
35	Liverâ€“Heart on chip models for drug safety. APL Bioengineering, 2021, 5, 031505.	3.3	20
36	Microfabricated Physiological Models for In Vitro Drug Screening Applications. Micromachines, 2016, 7, 233.	1.4	19

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37	Computational and Functional Evaluation of a Microfluidic Blood Flow Device. ASAIO Journal, 2007, 53, 447-455.	0.9	17
38	Fabrication of multiâ€well chips for spheroid cultures and implantable constructs through rapid prototyping techniques. Biotechnology and Bioengineering, 2015, 112, 1457-1471.	1.7	17
39	Microfluidic Approaches for the Assessment of Blood Cell Trauma: A Focus on Thrombotic Risk in Mechanical Circulatory Support Devices. International Journal of Artificial Organs, 2016, 39, 184-193.	0.7	17
40	Design and validation of a microfluidic device for bloodâ€“brain barrier monitoring and transport studies. Journal of Micromechanics and Microengineering, 2018, 28, 044001.	1.5	16
41	Lymphatic endothelium contributes to colorectal cancer growth via the soluble matrisome component GDF11. International Journal of Cancer, 2019, 145, 1913-1920.	2.3	16
42	A Simple Vacuumâ€Based Microfluidic Technique to Establish Highâ€Throughput Organsâ€Onâ€Chip and 3D Cell Cultures at the Microscale. Advanced Materials Technologies, 2019, 4, 1800319.	3.0	15
43	Photo and Soft Lithography for Organ-on-Chip Applications. Methods in Molecular Biology, 2022, 2373, 1-19.	0.4	15
44	Hyperexcitability in Cultured Cortical Neuron Networks from the G93A-SOD1 Amyotrophic Lateral Sclerosis Model Mouse and its Molecular Correlates. Neuroscience, 2019, 416, 88-99.	1.1	14
45	Assessing the influence of perfusion on cardiac microtissue maturation: A heartâ€onâ€chip platform embedding peristaltic pump capabilities. Biotechnology and Bioengineering, 2021, 118, 3128-3137.	1.7	14
46	High-throughput microfluidic platform for adherent single cells non-viral gene delivery. RSC Advances, 2015, 5, 5087-5095.	1.7	13
47	A dynamic microscale mid-throughput fibrosis model to investigate the effects of different ratios of cardiomyocytes and fibroblasts. Lab on A Chip, 2021, 21, 4177-4195.	3.1	13
48	Tailoring cardiac environment in microphysiological systems: an outlook on current and perspective heart-on-chip platforms. Future Science OA, 2017, 3, FSO191.	0.9	13
49	Stoichiometric control of live cell mixing to enable fluidically-encoded co-culture models in perfused microbioreactor arrays. Integrative Biology (United Kingdom), 2016, 8, 194-204.	0.6	10
50	Development of a microfluidic platform for highâ€throughput screening of nonâ€viral gene delivery vectors. Biotechnology and Bioengineering, 2018, 115, 775-784.	1.7	10
51	Realization and efficiency evaluation of a micro-photocatalytic cell prototype for real-time blood oxygenation. Medical Engineering and Physics, 2011, 33, 887-892.	0.8	9
52	High-Throughput Microfluidic Platform for 3D Cultures of Mesenchymal Stem Cells. Methods in Molecular Biology, 2017, 1612, 303-323.	0.4	9
53	Microfludic platforms for the evaluation of anti-platelet agent efficacy under hyper-shear conditions associated with ventricular assist devices. Medical Engineering and Physics, 2017, 48, 31-38.	0.8	9
54	Development of an organotypic microfluidic model to reproduce monocyte extravasation process in the osteoarthritic joint. Osteoarthritis and Cartilage, 2018, 26, S122.	0.6	8

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55	Microfluidic flow-based platforms for induction and analysis of dynamic shear-mediated platelet activationâ€"Initial validation versus the standardized hemodynamic shearing device. Biomicrofluidics, 2018, 12, 042208.	1.2	8
56	Microfluidic Biofabrication of 3D Multicellular Spheroids by Modulation of Non-geometrical Parameters. Frontiers in Bioengineering and Biotechnology, 2020, 8, 366.	2.0	8
57	Lab-on-Chip for testing myelotoxic effect of drugs and chemicals. Microfluidics and Nanofluidics, 2015, 19, 935-940.	1.0	7
58	Plasma-enhanced protein patterning in a microfluidic compartmentalized platform for multi-organs-on-chip: a liver-tumor model. Biomedical Materials (Bristol), 2021, 16, .	1.7	7
59	Young at Heart: Pioneering Approaches to Model Nonischaemic Cardiomyopathy with Induced Pluripotent Stem Cells. Stem Cells International, 2016, 2016, 1-15.	1.2	6
60	Design of a microfluidic strategy for trapping and screening single cells. Medical Engineering and Physics, 2016, 38, 33-40.	0.8	6
61	Modeling In Vitro Osteoarthritis Phenotypes in a Vascularized Bone Model Based on a Bone-Marrow Derived Mesenchymal Cell Line and Endothelial Cells. International Journal of Molecular Sciences, 2021, 22, 9581.	1.8	6
62	The MICELI (MICrofluidic, ELectrical, Impedance): Prototyping a Point-of-Care Impedance Platelet Aggregometer. International Journal of Molecular Sciences, 2020, 21, 1174.	1.8	4
63	Electromechanical Stimulation of 3D Cardiac Microtissues in a Heart-on-Chip Model. Methods in Molecular Biology, 2022, 2373, 133-157.	0.4	4
64	Short-Term Effects of Microstructured Surfaces: Role in Cell Differentiation toward a Contractile Phenotype. Journal of Applied Biomaterials and Functional Materials, 2015, 13, 92-99.	0.7	2
65	Organ-on-Chips for Studying Tissue Barriers: Standard Techniques and a Novel Method for Including Porous Membranes Within Microfluidic Devices. Methods in Molecular Biology, 2022, 2373, 21-38.	0.4	2
66	Mechanical Induction of Osteoarthritis Traits in a Cartilage-on-a-Chip Model. Methods in Molecular Biology, 2022, 2373, 231-251.	0.4	2
67	A RELIABLE METHOD FOR PROTOTYPING FLEXIBLE PHYSIOLOGIC-LIKE BEHAVING LEFT VENTRICLES FOR STUDYING MITRAL VALVE SURGICAL CORRECTIONS. Journal of Mechanics in Medicine and Biology, 2006, 06, 101-107.	0.3	1
68	Study of Cellular Adhesion by Means of Micropillar Surface Topologies. Advanced Materials Research, 0, 409, 105-110.	0.3	1
69	A Microfluidic Device for Flow-Through Blood Oxygenation by Photocatalytic Action. , 2009, , .		0
70	Validation of a Novel Microscale Mold Patterning Protocol Based on Gelatin Methacrylate Photopolymerizable Hydrogels. , 2012, , .		0
71	“HyperShear in a channel”: A microfluidic facsimile of ventricular assist devices to reduce thrombotic risk and enhance patient safety. , 2014, , .		0
72	Microbioreactor for cell cultures under uniaxial cyclic strain. , 2015, , .		0

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73	Analitical and numerical simulation of platelets in microchannels and their stress history. , 2017, , .		0
74	Numerical Analyses of Microchannels Filling in a Lab-on-Chip Device. , 2006, , .		0
75	Development of a Microfluidic Device Embedding High-Conductivity Flexible Electrodes for Three-Dimensional Cell Culture Stimulations. , 2012, , .		0
76	Selective Biochemical Manipulation of Twin Neuronal Networks on Microelectrode Arrays. Neuromethods, 2015, , 217-230.	0.2	0