Jaap M J Den Toonder

List of Publications by Citations

74 papers	2,459 citations	28 h-index	48 g-index
83 ext. papers	2,926 ext. citations	5.9 avg, IF	5.56 L-index

#	Paper	IF	Citations
74	Artificial cilia for active micro-fluidic mixing. *Lab on A Chip*, **2008**, 8, 533-41	7.2	220
73	Integrated lab-on-chip biosensing systems based on magnetic particle actuation--a comprehensive review. *Lab on A Chip*, **2014**, 14, 1966-86	7.2	185
72	Photo-switchable surface topologies in chiral nematic coatings. *Angewandte Chemie - International Edition*, **2012**, 51, 892-6	16.4	140
71	Magnetically-actuated artificial cilia for microfluidic propulsion. *Lab on A Chip*, **2011**, 11, 2002-10	7.2	117
70	Microfluidic manipulation with artificial/bioinspired cilia. *Trends in Biotechnology*, **2013**, 31, 85-91	15.1	111
69	Light-Induced Formation of Dynamic and Permanent Surface Topologies in Chiral Nematic Polymer Networks. *Macromolecules*, **2012**, 45, 8005-8012	5.5	93
68	Active micromixer based on artificial cilia. *Physics of Fluids*, **2007**, 19, 083605	4.4	87
67	Metastasis in context: modeling the tumor microenvironment with cancer-on-a-chip approaches. *DMM Disease Models and Mechanisms*, **2018**, 11,	4.1	71
66	Numerical and experimental study of a rotating magnetic particle chain in a viscous fluid. *Physical Review E*, **2012**, 86, 041503	2.4	71
65	Microfluidic propulsion by the metachronal beating of magnetic artificial cilia: a numerical analysis. *Journal of Fluid Mechanics*, **2011**, 688, 44-65	3.7	63
64	Nature-inspired microfluidic propulsion using magnetic actuation. *Physical Review E*, **2009**, 79, 046304	2.4	59
63	A biomimetic microfluidic model to study signalling between endothelial and vascular smooth muscle cells under hemodynamic conditions. *Lab on A Chip*, **2018**, 18, 1607-1620	7.2	58
62	A Soft Transporter Robot Fueled by Light. *Advanced Science*, **2020**, 7, 1902842	13.6	56
61	Out of the cleanroom, self-assembled magnetic artificial cilia. *Lab on A Chip*, **2013**, 13, 3360-6	7.2	45
60	Disaggregation of microparticle clusters by induced magnetic dipole-dipole repulsion near a surface. *Lab on A Chip*, **2013**, 13, 1394-401	7.2	43
59	Breaking of symmetry in microfluidic propulsion driven by artificial cilia. *Physical Review E*, **2010**, 82, 027302	2.4	41
58	Versatile microfluidic flow generated by moulded magnetic artificial cilia. *Sensors and Actuators B: Chemical*, **2018**, 263, 614-624	8.5	40

57	Inertial flow effects in a micro-mixer based on artificial cilia. *Lab on A Chip*, **2009**, 9, 2326-31	7.2	38
56	Fluid flow due to collective non-reciprocal motion of symmetrically-beating artificial cilia. *Biomicrofluidics*, **2012**, 6, 14106-1410614	3.2	36
55	Artificial cilia fabricated using magnetic fiber drawing generate substantial fluid flow. *Microfluidics and Nanofluidics*, **2015**, 18, 167-174	2.8	34
54	Microfluidic Magnetic Mixing at Low Reynolds Numbers and in Stagnant Fluids. *Micromachines*, **2019**, 10,	3.3	34
53	A continuous roll-pulling approach for the fabrication of magnetic artificial cilia with microfluidic pumping capability. *Lab on A Chip*, **2016**, 16, 2277-86	7.2	31
52	Chaotic fluid mixing by alternating microparticle topologies to enhance biochemical reactions. *Microfluidics and Nanofluidics*, **2014**, 16, 265-274	2.8	31
51	(Photo-)thermally induced formation of dynamic surface topographies in polymer hydrogel networks. *Langmuir*, **2013**, 29, 5622-9	4	31
50	An integrated flex-microfluidic-Si chip device towards sweat sensing applications. *Sensors and Actuators B: Chemical*, **2016**, 227, 427-437	8.5	28
49	Wearable sweat sensing for prolonged, semicontinuous, and nonobtrusive health monitoring. *View*, **2020**, 1, 20200077	7.8	27
48	Anti-Biofouling and Self-Cleaning Surfaces Featured with Magnetic Artificial Cilia. *ACS Applied Materials & Interfaces*, **2020**, 12, 27726-27736	9.5	26
47	Sorting algal cells by morphology in spiral microchannels using inertial microfluidics. *Microfluidics and Nanofluidics*, **2016**, 20, 1	2.8	26
46	Single-composition three-dimensionally morphing hydrogels. *Soft Matter*, **2013**, 9, 588-596	3.6	26
45	Removal of Microparticles by Ciliated Surfaces□n Experimental Study. *Advanced Functional Materials*, **2019**, 29, 1806434	15.6	24
44	Magnetically actuated artificial cilia: the effect of fluid inertia. *Langmuir*, **2012**, 28, 7921-37	4	22
43	Climbing droplets driven by mechanowetting on transverse waves. *Science Advances*, **2019**, 5, eaaw0914	14.3	20
42	Controlled Multidirectional Particle Transportation by Magnetic Artificial Cilia. *ACS Nano*, **2020**, 14, 10313	15.8	20
41	Metachronal actuation of microscopic magnetic artificial cilia generates strong microfluidic pumping. *Lab on A Chip*, **2020**, 20, 3569-3581	7.2	19
40	A concise review of microfluidic particle manipulation methods. *Microfluidics and Nanofluidics*, **2020**, 24, 1	2.8	18

39	Dynamics of magnetic chains in a shear flow under the influence of a uniform magnetic field. *Physics of Fluids*, **2012**, 24, 042001	4.4	17
38	Fluid propulsion using magnetically-actuated artificial cilia experiments and simulations. *RSC Advances*, **2013**, 3, 12735	3.7	16
37	A novel method to understand tumor cell invasion: integrating extracellular matrix mimicking layers in microfluidic chips by "selective curing". *Biomedical Microdevices*, **2017**, 19, 92	3.7	16
36	Advances in 3D neuronal cell culture. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2015**, 33, 06F902	1.3	16
35	MDA-MB-231 Breast Cancer Cells and Their CSC Population Migrate Towards Low Oxygen in a Microfluidic Gradient Device. *International Journal of Molecular Sciences*, **2018**, 19,	6.3	16
34	Recapitulating the Vasculature Using Organ-On-Chip Technology. *Bioengineering*, **2020**, 7,	5.3	15
33	An artificial aquatic polyp that wirelessly attracts, grasps, and releases objects. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 17571-17577	11.5	14
32	Circulating Tumor Cells: What Is in It for the Patient? A Vision towards the Future. *Cancers*, **2014**, 6, 1195-1207	4.6	13
31	Microfluidic magnetic bead conveyor belt. *Lab on A Chip*, **2017**, 17, 3826-3840	7.2	12
30	Monocytic cells become less compressible but more deformable upon activation. *PLoS ONE*, **2014**, 9, e92814	3.7	12
29	Foil-to-Foil System Integration Through Capillary Self-Alignment Directed by Laser Patterning. *Journal of Microelectromechanical Systems*, **2015**, 24, 126-133	2.5	11
28	Accurate quantification of magnetic particle properties by intra-pair magnetophoresis for nanobiotechnology. *Applied Physics Letters*, **2013**, 103, 043704	3.4	10
27	Metachronal Cilia for On-Chip Integrated Pumps and Climbing Robots. *ACS Applied Materials & Interfaces*, **2021**, 13, 20845-20857	9.5	10
26	A membrane-based microfluidic device for mechano-chemical cell manipulation. *Biomedical Microdevices*, **2016**, 18, 31	3.7	9
25	3D Sugar Printing of Networks Mimicking the Vasculature. *Micromachines*, **2019**, 11,	3.3	7
24	Conventional glaucoma implants and the new MIGS devices: a comprehensive review of current options and future directions. *Eye*, **2021**, 35, 3202-3221	4.4	7
23	Dynamics of magnetic particles near a surface: model and experiments on field-induced disaggregation. *Physical Review E*, **2014**, 89, 042306	2.4	6
22	Characterizing the invasion of different breast cancer cell lines with distinct E-cadherin status in 3D using a microfluidic system. *Biomedical Microdevices*, **2019**, 21, 101	3.7	6

21	Validation and Optimization of an Image-Based Screening Method Applied to the Study of Neuronal Processes on Nanogrooves. *Frontiers in Cellular Neuroscience*, **2018**, 12, 415	6.1	6
20	Microfluidic slug transport on traveling-wave surface topographies by mechanowetting. *Physical Review Fluids*, **2020**, 5,	2.8	5
19	Enhanced Microfluidic Sample Homogeneity and Improved Antibody-Based Assay Kinetics Due to Magnetic Mixing. *ACS Sensors*, **2021**, 6, 2553-2562	9.2	5
18	A stirring system using suspended magnetically-actuated pillars for controlled cell clustering. *Soft Matter*, **2019**, 15, 1435-1443	3.6	4
17	Enhancement of microalgae growth using magnetic artificial cilia. *Biotechnology and Bioengineering*, **2021**, 118, 2472-2481	4.9	4
16	Highly motile nanoscale magnetic artificial cilia. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	4
15	Magnetic interaction of Janus magnetic particles suspended in a viscous fluid. *Physical Review E*, **2016**, 93, 022607	2.4	3
14	Mechanowetting drives droplet and fluid transport on traveling surface waves generated by light-responsive liquid crystal polymers. *Physics of Fluids*, **2021**, 33, 063307	4.4	3
13	Magnetic Artificial Cilia for Microfluidic Propulsion. *Advances in Applied Mechanics*, **2015**, 48, 1-78	10	2
12	Self-Cleaning Surfaces Realized by Biologically Sized Magnetic Artificial Cilia. *Advanced Materials Interfaces*, **2022**, 9, 2102016	4.6	2
11	Magnetic bead mixing in a microfluidic chamber induced by an in-plane rotating magnetic field. *Microfluidics and Nanofluidics*, **2022**, 26, 1	2.8	1
10	Engineered modular microphysiological models of the human airway clearance phenomena. *Biotechnology and Bioengineering*, **2021**, 118, 3898-3913	4.9	1
9	In-vitro investigation of the relationship between microvascular structure and ultrasound contrast agent dynamics **2019**,		1
8	Influence Function Measurement Technique Using the Direct and Indirect Piezoelectric Effect for Surface Shape Control in Adaptive Systems. *IEEE Transactions on Automation Science and Engineering*, **2021**, 1-9	4.9	1
7	Transport and mixing by metachronal waves in nonreciprocal soft robotic pneumatic artificial cilia at low Reynolds numbers. *Physics of Fluids*, **2021**, 33, 092009	4.4	1
6	Capturing Essential Physiological Aspects of Interacting Cartilage and Bone Tissue with Osteoarthritis Pathophysiology: A Human Osteochondral Unit-on-a-Chip Model. *Advanced Materials Technologies*,2101310	6.8	1
5	An integrated system for automated measurement of airborne pollen based on electrostatic enrichment and image analysis with machine vision. *Talanta*, **2022**, 237, 122908	6.2	0
4	Stretchable broadband photo-sensor sheets for nonsampling, source-free, and label-free chemical monitoring by simple deformable wrapping.. *Science Advances*, **2022**, 8, eabm4349	14.3	0

3	Macromol. Rapid Commun. 1/2018. *Macromolecular Rapid Communications*, **2018**, 39, 1870004	4.8
2	One-Minute Wear-Rate Measurement. *Macromolecular Rapid Communications*, **2005**, 26, 188-191	4.8
1	Directional droplet transport on switchable ratchets by mechanowetting. *Microfluidics and Nanofluidics*, **2022**, 26, 1	2.8