Ryuji Yokokawa

List of Publications by Citations

114 papers	1,183 citations	20 h-index	30 g-index
165 ext. papers	1,502 ext. citations	4.7 avg, IF	4.35 L-index

#	Paper	IF	Citations
114	Integrating perfusable vascular networks with a three-dimensional tissue in a microfluidic device. *Integrative Biology (United Kingdom)*, **2017**, 9, 506-518	3.7	106
113	Vascularized cancer on a chip: The effect of perfusion on growth and drug delivery of tumor spheroid. *Biomaterials*, **2020**, 229, 119547	15.6	93
112	Unidirectional Transport of Kinesin-Coated Beads on Microtubules Oriented in a Microfluidic Device. *Nano Letters*, **2004**, 4, 2265-2270	11.5	73
111	Simultaneous and bidirectional transport of kinesin-coated microspheres and dynein-coated microspheres on polarity-oriented microtubules. *Biotechnology and Bioengineering*, **2008**, 101, 1-8	4.9	48
110	Hybrid nanotransport system by biomolecular linear motors. *Journal of Microelectromechanical Systems*, **2004**, 13, 612-619	2.5	47
109	Unidirectional transport of a bead on a single microtubule immobilized in a submicrometre channel. *Nanotechnology*, **2006**, 17, 289-294	3.4	38
108	Colocalization of quantum dots by reactive molecules carried by motor proteins on polarized microtubule arrays. *ACS Nano*, **2013**, 7, 447-55	16.7	37
107	Constant flow-driven microfluidic oscillator for different duty cycles. *Analytical Chemistry*, **2012**, 84, 1152-6	7.6	34
106	Multiple independent autonomous hydraulic oscillators driven by a common gravity head. *Nature Communications*, **2015**, 6, 7301	17.4	33
105	Active transport of oil droplets along oriented microtubules by kinesin molecular motors. *Lab on A Chip*, **2009**, 9, 1694-700	7.2	30
104	SINC-seq: correlation of transient gene expressions between nucleus and cytoplasm reflects single-cell physiology. *Genome Biology*, **2018**, 19, 66	18.3	27
103	Microfluidic automation using elastomeric valves and droplets: reducing reliance on external controllers. *Small*, **2012**, 8, 2925-34	11	27
102	Control of molecular shuttles by designing electrical and mechanical properties of microtubules. *Science Robotics*, **2017**, 2,	18.6	24
101	Piezoelectric properties of microfabricated (K,Na)NbO3 thin films. *Sensors and Actuators A: Physical* , **2011**, 171, 223-227	3.9	24
100	Individual evaluation of DEP, EP and AC-EOF effects on DNA molecules in a DNA concentrator. *Sensors and Actuators B: Chemical*, **2010**, 143, 769-775	8.5	24
99	Engineering of vascularized 3D cell constructs to model cellular interactions through a vascular network. *Biomicrofluidics*, **2018**, 12, 042204	3.2	24
98	Microfluidic oscillators with widely tunable periods. *Lab on A Chip*, **2013**, 13, 1644-8	7.2	23

97	Control of microtubule trajectory within an electric field by altering surface charge density. *Scientific Reports*, **2015**, 5, 7669	4.9	22
96	Biomolecular linear motors confined to move upon micro-patterns on glass. *Journal of Micromechanics and Microengineering*, **2006**, 16, 1550-1554	2	21
95	Versatile microfluidic total internal reflection (TIR)-based devices: application to microbeads velocity measurement and single molecule detection with upright and inverted microscope. *Lab on A Chip*, **2009**, 9, 244-50	7.2	20
94	On-chip syringe pumps for picoliter-scale liquid manipulation. *Lab on A Chip*, **2006**, 6, 1062-6	7.2	19
93	Mechanical properties of aerogel-like thin films used for MEMS. *Journal of Micromechanics and Microengineering*, **2004**, 14, 681-686	2	17
92	A nano-needle/microtubule composite gliding on a kinesin-coated surface for target molecule transport. *Lab on A Chip*, **2010**, 10, 86-91	7.2	15
91	Composition Dependence of Piezoelectric Properties of Pb(Zr,Ti)O$_{3}$ Films Prepared by Combinatorial Sputtering. *Japanese Journal of Applied Physics*, **2012**, 51, 09LA12	1.4	15
90	Analyzing threshold pressure limitations in microfluidic transistors for self-regulated microfluidic circuits. *Applied Physics Letters*, **2012**, 101, 234107	3.4	15
89	Orientation Dependence of Transverse Piezoelectric Properties of Epitaxial BaTiO3Films. *Japanese Journal of Applied Physics*, **2010**, 49, 09MA09	1.4	14
88	Design, simulation and fabrication of a total internal reflection (TIR)-based chip for highly sensitive fluorescent imaging. *Journal of Micromechanics and Microengineering*, **2007**, 17, 1139-1146	2	14
87	Sequential processing from cell lysis to protein assay on a chip enabling the optimization of an F(1)-ATPase single molecule assay condition. *Lab on A Chip*, **2009**, 9, 3567-73	7.2	13
86	Biosensing MAPs as "roadblocks": kinesin-based functional analysis of tau protein isoforms and mutants using suspended microtubules (sMTs). *Lab on A Chip*, **2013**, 13, 3217-24	7.2	12
85	Metal-based piezoelectric microelectromechanical systems scanner composed of Pb(Zr, Ti)O3 thin film on titanium substrate. *Microsystem Technologies*, **2012**, 18, 765-771	1.7	12
84	DNA molecule manipulation by motor proteins for analysis at the single-molecule level. *Analytical and Bioanalytical Chemistry*, **2008**, 391, 2735-43	4.4	12
83	Tug-of-war of microtubule filaments at the boundary of a kinesin- and dynein-patterned surface. *Scientific Reports*, **2014**, 4, 5281	4.9	11
82	A perfusable microfluidic device with on-chip total internal reflection fluorescence microscopy (TIRFM) for in situ and real-time monitoring of live cells. *Biomedical Microdevices*, **2012**, 14, 791-7	3.7	10
81	Oxygen consumption rate of tumour spheroids during necrotic-like core formation. *Analyst, The*, **2020**, 145, 6342-6348	5	10
80	Tissue culture on a chip: Developmental biology applications of self-organized capillary networks in microfluidic devices. *Development Growth and Differentiation*, **2016**, 58, 505-15	3	10

79	Simultaneous Observation of Kinesin-Driven Microtubule Motility and Binding of Adenosine Triphosphate Using Linear Zero-Mode Waveguides. *ACS Nano*, **2018**, 12, 11975-11985	16.7	10
78	Electrical Lysis and RNA Extraction from Single Cells Fixed by Dithiobis(succinimidyl propionate). *Analytical Chemistry*, **2018**, 90, 12512-12518	7.8	10
77	Perfusable multi-scale channels fabricated by integration of nanoimprint lighography (NIL) and UV lithography (UVL). *Microelectronic Engineering*, **2012**, 98, 58-63	2.5	9
76	Specific transport of target molecules by motor proteins in microfluidic channels. *ChemPhysChem*, **2013**, 14, 1618-25	3.2	9
75	Open-access and multi-directional electroosmotic flow chip for positioning heterotypic cells. *Lab on A Chip*, **2011**, 11, 1507-12	7.2	9
74	Polarity orientation of microtubules utilizing a dynein-based gliding assay. *Nanotechnology*, **2008**, 19, 125505	3.4	9
73	. *IEEE Transactions on Advanced Packaging*, **2005**, 28, 577-583		9
72	Synergistic effect of ATP for RuvA-RuvB-Holliday junction DNA complex formation. *Scientific Reports*, **2015**, 5, 18177	4.9	8
71	A new perfusion culture method with a self-organized capillary network. *PLoS ONE*, **2020**, 15, e0240552	3.7	8
70	On-chip microtubule gliding assay for parallel measurement of tau protein species. *Lab on A Chip*, **2016**, 16, 1691-7	7.2	8
69	Multilayer Thin-Film Capacitor Fabricated by Radio-Frequency Magnetron Sputtering. *Japanese Journal of Applied Physics*, **2011**, 50, 09NA01	1.4	7
68	Transport of microtubules according to the number and spacing of kinesin motors on gold nano-pillars. *Nanoscale*, **2019**, 11, 9879-9887	7.7	6
67	Dynamic formation of a microchannel array enabling kinesin-driven microtubule transport between separate compartments on a chip. *Lab on A Chip*, **2015**, 15, 2055-63	7.2	6
66	Different motilities of microtubules driven by kinesin-1 and kinesin-14 motors patterned on nanopillars. *Science Advances*, **2020**, 6, eaax7413	14.3	6
65	Orientation Dependence of Shear Mode Piezoelectric Properties of Epitaxial Pb(Zrx,Ti1-x)O3Thin Films. *Japanese Journal of Applied Physics*, **2010**, 49, 09MA07	1.4	6
64	Micro fabrication of lead-free (K,Na)NbO3 piezoelectric thin films by dry etching. *Micro and Nano Letters*, **2012**, 7, 1223-1225	0.9	6
63	Ultra-smooth glass channels for bioassay with motor proteins. *Analyst, The*, **2004**, 129, 850-4	5	6
62	Pick-and-Place Assembly of Single Microtubules. *Small*, **2017**, 13, 1701136	11	5

61	In situvelocity control of gliding microtubules with temperature monitoring by fluorescence excitation on a patterned gold thin film. *Materials Research Express*, **2014**, 1, 045405	1.7	5
60	Suspended microtubules demonstrate high sensitivity and low experimental variability in kinesin bead assay. *Analyst, The*, **2013**, 138, 1653-6	5	4
59	Vascular network formation for a long-term spheroid culture by co-culturing endothelial cells and fibroblasts **2015**,		4
58	Fabrication of optically smooth, through-wafer silicon molds for PDMS total internal reflection-based devices. *Microsystem Technologies*, **2009**, 15, 1845-1853	1.7	4
57	Transcriptome analysis device based on liquid phase detection by fluorescently labeled nucleic acid probes. *Biomedical Microdevices*, **2007**, 9, 869-75	3.7	4
56	Microphysiological systems in early stage drug development: Perspectives on current applications and future impact. *Journal of Toxicological Sciences*, **2021**, 46, 99-114	1.9	4
55	Microtubule polymerization in alignment by an on-chip temperature gradient platform. *Sensors and Actuators B: Chemical*, **2019**, 298, 126813	8.5	3
54	Mathematical modeling for meshwork formation of endothelial cells in fibrin gels. *Journal of Theoretical Biology*, **2017**, 429, 95-104	2.3	3
53	Microtubule density and landing rate as parameters to analyze tau protein in the MT-kinesin gliding assay. *Sensors and Actuators B: Chemical*, **2017**, 238, 954-961	8.5	3
52	Metal-based piezoelectric MEMS scanner mirrors composed of PZT thin films on titanium substrates **2011**,		3
51	Measuring the force of adhesion between multiple kinesins and a microtubule using the fluid force produced by microfluidic flow. *Microfluidics and Nanofluidics*, **2011**, 11, 519-527	2.8	3
50	Suppression of Stiction Force by All-Vapor Processes using HF, Ozone, and HMDS for MEMS Devices. *IEEJ Transactions on Sensors and Micromachines*, **2007**, 127, 221-227	0.2	3
49	Distinct Kinetics in Electrophoretic Extraction of Cytoplasmic RNA from Single Cells. *Analytical Chemistry*, **2020**, 92, 1485-1492	7.8	3
48	Spatial Patterning of Kinesin-1 and Dynein Motor Proteins in an In Vitro Assay using Aqueous Two-Phase Systems (ATPS). *Langmuir*, **2019**, 35, 13003-13010	4	2
47	Perfusable Vascular Network with a Tissue Model in a Microfluidic Device. *Journal of Visualized Experiments*, **2018**,	1.6	2
46	Highly-sensitive fluorescence detection and imaging with microfabricated total internal reflection (TIR)-based devices. *Journal of Micro-Nano Mechatronics*, **2012**, 7, 45-59		2
45	High efficiency energy harvester of transferred epitaxial PZT films on stainless steel sheets **2010**,		2
44	**2008**,		2

43	Growth rate-dependent flexural rigidity of microtubules influences pattern formation in collective motion. *Journal of Nanobiotechnology*, **2021**, 19, 218	9.4	2
42	Single-molecule fluorescence imaging of kinesin using linear zero-mode waveguides **2016**,		2
41	Mesenchymal glioblastoma-induced mature de-novo vessel formation of vascular endothelial cells in a microfluidic device. *Molecular Biology Reports*, **2021**, 48, 395-403	2.8	2
40	Linear zero mode waveguides for the study of chemo-mechanical coupling mechanism of kinesin **2017**,		1
39	The Cooperative Motility of Microtubules on Nano-Patterned Kinesin-1 Turf **2019**,		1
38	Real-time monitoring of Ca2+ concentration in pancreatic beta cells by a microfluidic device integrated with Total Internal Reflection (TIR)-based chip **2011**,		1
37	Biomotor-based nanotransport system constructed by pick-and-place assembly of individual molecules **2010**,		1
36	Nano monorail for molecular motors: Individually manipulated microtubules for kinesin motion **2009**,		1
35	A Monolithic Dual-Color Total-Internal-Reflection-Based Chip for Highly Sensitive and High-Resolution Dual-Fluorescence Imaging. *Journal of Microelectromechanical Systems*, **2009**, 18, 1371-1381	2.5	1
34	Fabrication and characterization of multiple nanowires using microtubule structures **2009**,		1
33	On/off control of biomolecular motors in a microfluidic device		1
32	Sorting of molecular shuttles by designing electrical and mechanical properties of microtubules		1
31	Targeted permeabilization of the cell wall and extraction of charged molecules from single cells in intact plant clusters using a focused electric field. *Analyst, The*, **2021**, 146, 1604-1611	5	0
30	Mechanical loading of intraluminal pressure mediates wound angiogenesis by regulating the TOCA family of F-BAR proteins.. *Nature Communications*, **2022**, 13, 2594	17.4	0
29	2P119 Single-molecule visualization of RuvB oligomer for characterizing a AAA^+ class hexameric ATPase with zero-mode waveguides(04. Nucleic acid binding proteins,Poster). *Seibutsu Butsuri*, **2013**, 53, S178	0	
28	1M1548 P46 Single-molecule visualization of a AAA^+ DNA recombination ATPase with zero-mode waveguides toward elucidation of its hexamer formation(Molecular motor 2,The 49th Annual Meeting of the Biophysical Society of Japan). *Seibutsu Butsuri*, **2011**, 51, S65	0	
27	Polarity orientation of microtubules and its applications with motor proteins. *Advances in Natural Sciences: Nanoscience and Nanotechnology*, **2010**, 1, 045002	1.6	
26	A cell lysis and protein purification single molecule assay devices for evaluation of genetically engineered proteins. *Electronics and Communications in Japan*, **2009**, 92, 20-30	0.4	

25	Evaluation of Trans-epithelial Electrical Resistance by Removal and Replenishment of Extracellular Ca2+. *IEEJ Transactions on Sensors and Micromachines*, **2022**, 142, 21-28	0.2
24	Nano-systems Driven by Motor Proteins. *Journal of the Institute of Electrical Engineers of Japan*, **2020**, 140, 585-587	0
23	A Cell Lysis and Protein Purification - Single Molecule Assay Devices for Evaluation of Genetically Engineered Proteins. *IEEJ Transactions on Sensors and Micromachines*, **2008**, 128, 167-175	0.2
22	Numerical analyses on single-cell electroporation and RNA extraction under focused electric field. *The Proceedings of Mechanical Engineering Congress Japan*, **2018**, 2018, J0530202	0
21	Isotachophoresis-based RNA extraction from fixed single cells. *The Proceedings of the Symposium on Micro-Nano Science and Technology*, **2018**, 2018.9, 30am3PN37	0
20	Engineering a Perfusable Vascular Network in a Microfluidic Device for a Morphological Analysis. *IEEJ Transactions on Sensors and Micromachines*, **2018**, 138, 275-280	0.2
19	Preface to the Special Issue on The Awarded Papers of The 34th Sensor Symposium *IEEJ Transactions on Sensors and Micromachines*, **2018**, 138, 268-269	0.2
18	Characterization of Microtubules Gliding on Surfaces Roughness Structure. *IEEJ Transactions on Sensors and Micromachines*, **2018**, 138, 503-508	0.2
17	Dynamics of RNA in single cells under focused electric field. *The Proceedings of Mechanical Engineering Congress Japan*, **2019**, 2019, J22109	0
16	J0540101 Purity of cytoplasmic RNA extracted from single cells via electrical lysis and isotachophoresis. *The Proceedings of Mechanical Engineering Congress Japan*, **2015**, 2015, _J0540101--_J0540101-	0
15	W221002 Integration of Micro/Nano Fabrications and Biophysics. *The Proceedings of Mechanical Engineering Congress Japan*, **2015**, 2015, _W221002-1-_W221002-2	0
14	Extraction efficiency of RNA at single cell level via microfluidic isotachophoresis. *The Proceedings of Mechanical Engineering Congress Japan*, **2016**, 2016, J0540301	0
13	Pneumatically-driven Microfluidic Device for Evaluating Active Transport by Kinesin Motor Protein. *IEEJ Transactions on Sensors and Micromachines*, **2016**, 136, 384-389	0.2
12	Velocity Control of Microtubules with High Spatial Resolution on an Au-coated Surface with an SU-8 Thermal Isolation Layer. *IEEJ Transactions on Sensors and Micromachines*, **2016**, 136, 77-82	0.2
11	Design and Fabrication of Linear-shaped Zero Mode Waveguides for Single Molecule Observation of Kinesin and Fluorescent ATP. *IEEJ Transactions on Sensors and Micromachines*, **2017**, 137, 159-164	0.2
10	Preface to the Special Issue on World State-of-the-art Research on Sensors and Micromachines *IEEJ Transactions on Sensors and Micromachines*, **2017**, 137, 1-1	0.2
9	Preface to the Special Issue on Selected papers in The Technical Meetings on Sensors and Micromachines 2016 *IEEJ Transactions on Sensors and Micromachines*, **2017**, 137, 123-123	0.2
8	J0207-2-1 Heterotypic cell positioning using electroosmotic flow and observation of cell-cell interactions. *The Proceedings of the JSME Annual Meeting*, **2010**, 2010.6, 239-240	

7	T1601-1-4 Fabrication of piezoelectric cantilever-shaped actuators with lead-free KNbO_3-NaNbO_3 thin films. *The Proceedings of the JSME Annual Meeting*, **2010**, 2010.8, 193-194	
6	J0207-1-6 Bi-directional transport of motor protein by electrophoresis. *The Proceedings of the JSME Annual Meeting*, **2010**, 2010.6, 135-136	
5	D-2-1 Fabrication of Sub-micrometer Channels for Bio-assay Perfusion Device by Integrating Nanoimprint Lithography and UV Lithography. *The Proceedings of the Conference on Information Intelligence and Precision Equipment IIP*, **2011**, 2011, 28-29	0
4	Fabrication of a Perfusable Glass Microfluidic Channel for Microtubule Manipulation using an Electric Field. *IEEJ Transactions on Sensors and Micromachines*, **2014**, 134, 64-69	0.2
3	25 Years for integrating Micromachines and Biomaterials. *Journal of the Institute of Electrical Engineers of Japan*, **2014**, 134, 288-288	0
2	Linear-Zero Mode Waveguides for Single-Molecule Fluorescence Observation of Nucleotides in Kinesin-Microtubule Motility Assay.. *Methods in Molecular Biology*, **2022**, 2430, 121-131	1.4
1	Design of Mechanical and Electrical Properties for Multidirectional Control of Microtubules.. *Methods in Molecular Biology*, **2022**, 2430, 105-119	1.4