

# Makoto Kaneko

## List of Publications by Year in descending order

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Version: 2024-02-01

152  
papers

957  
citations

430874

18  
h-index

552781

26  
g-index

154  
all docs

154  
docs citations

154  
times ranked

845  
citing authors

#	ARTICLE	IF	CITATIONS
1	Red blood cell fatigue evaluation based on the close-encountering point between extensibility and recoverability. Lab on A Chip, 2014, 14, 1135.	6.0	98
2	A New Dimensionless Index for Evaluating Cell Stiffness-Based Deformability in Microchannel. IEEE Transactions on Biomedical Engineering, 2014, 61, 1187-1195.	4.2	47
3	Injectable Hemostat Composed of a Polyphosphate-Conjugated Hyaluronan Hydrogel. Biomacromolecules, 2018, 19, 3280-3290.	5.4	47
4	A new stiffness evaluation toward high speed cell sorter. , 2010, , .		35
5	On-Chip Method to Measure Mechanical Characteristics of a Single Cell by Using Moiré Fringe. Micromachines, 2015, 6, 660-673.	2.9	34
6	Mechanical diagnosis of human erythrocytes by ultra-high speed manipulation unraveled critical time window for global cytoskeletal remodeling. Scientific Reports, 2017, 7, 43134.	3.3	32
7	An On-Chip RBC Deformability Checker Significantly Improves Velocity-Deformation Correlation. Micromachines, 2016, 7, 176.	2.9	31
8	Arterial graft with elastic layer structure grown from cells. Scientific Reports, 2017, 7, 140.	3.3	31
9	Geometrical alignment for improving cell evaluation in a microchannel with application on multiple myeloma red blood cells. RSC Advances, 2014, 4, 45050-45058.	3.6	30
10	An Optimum Design of Robotic Hand for Handling a Visco-elastic Object Based on Maxwell Model. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	29
11	Temporal Transition of Mechanical Characteristics of HUVEC/MSC Spheroids Using a Microfluidic Chip with Force Sensor Probes. Micromachines, 2016, 7, 221.	2.9	23
12	Challenges and Possibilities of Cell-Based Tissue-Engineered Vascular Grafts. Cyborg and Bionic Systems, 2021, 2021, .	7.9	22
13	Active Strobe Imager for Visualizing Dynamic Behavior of Tumors. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	21
14	Dynamic Nonprehensile Manipulation for Rotating a Thin Deformable Object: An Analogy to Bipedal Gaits. IEEE Transactions on Robotics, 2012, 28, 607-618.	10.3	21
15	Constrained Adherable Area of Nanotopographic Surfaces Promotes Cell Migration through the Regulation of Focal Adhesion via Focal Adhesion Kinase/Rac1 Activation. ACS Applied Materials & Interfaces, 2018, 10, 14331-14341.	8.0	21
16	On-chip pressure sensor using single-layer concentric chambers. Biomicrofluidics, 2016, 10, 024116.	2.4	20
17	High Resolution Cell Positioning Based on a Flow Reduction Mechanism for Enhancing Deformability Mapping. Micromachines, 2014, 5, 1188-1201.	2.9	19
18	On-chip actuation transmitter for enhancing the dynamic response of cell manipulation using a macro-scale pump. Biomicrofluidics, 2015, 9, 014114.	2.4	19

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19	Deformation of a Red Blood Cell in a Narrow Rectangular Microchannel. <i>Micromachines</i> , 2019, 10, 199.	2.9	19
20	Ion-Specific Modulation of Interfacial Interaction Potentials between Solid Substrates and Cell-Sized Particles Mediated via Zwitterionic, Super-Hydrophilic Poly(sulfobetaine) Brushes. <i>Journal of Physical Chemistry B</i> , 2017, 121, 1396-1404.	2.6	17
21	Dynamic Capturing Strategy for a 2-D Stick-Shaped Object Based on Friction Independent Collision. , 2007, 23, 541-552.		16
22	Local traction force in the proximal leading process triggers nuclear translocation during neuronal migration. <i>Neuroscience Research</i> , 2019, 142, 38-48.	1.9	15
23	Dexterous hyper plate inspired by pizza manipulation. , 2008, , .		13
24	Non-grasp manipulation of deformable object by using pizza handling mechanism. , 2009, , .		13
25	Omnidirectional driving gears and their input mechanism with passive rollers. , 2012, , .		13
26	Armadillo-inspired wheel-leg retractable module. , 2009, , .		12
27	An optimum design of robotic food handling by using Burger model. <i>Intelligent Service Robotics</i> , 2009, 2, 53-60.	2.6	11
28	Catch, load and launch toward on-chip active cell evaluation. , 2016, , .		11
29	Red Blood Cell Responses during a Long-Standing Load in a Microfluidic Constriction. <i>Micromachines</i> , 2017, 8, 100.	2.9	11
30	On-chip cell manipulation and applications to deformability measurements. <i>ROBOMECH Journal</i> , 2020, 7, .	1.6	11
31	Gravity-Based Precise Cell Manipulation System Enhanced by In-Phase Mechanism. <i>Micromachines</i> , 2016, 7, 116.	2.9	9
32	Phase decomposition of a cell passing through a &#x03BC;-channel: A method for improving the evaluation of cell stiffness. , 2012, , .		8
33	Large Indentation Method to Measure Elasticity of Cell in Robot-Integrated Microfluidic Chip. <i>IEEE Robotics and Automation Letters</i> , 2017, 2, 2002-2007.	5.1	8
34	Transfer Function of Macro-Micro Manipulation on a PDMS Microfluidic Chip. <i>Micromachines</i> , 2017, 8, 80.	2.9	8
35	Tongue elasticity sensing with muscle contraction monitoring. , 2012, , .		6
36	Modeling, Sensing, and Interpretation of Viscoelastic Contact Interface. <i>Advanced Robotics</i> , 2012, 26, 1393-1418.	1.8	6

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37	The gear mechanism with passive rollers: The input mechanism to drive the omnidirectional gear and worm gearing. , 2013, , .		6
38	Ocular Surface Displacement with and without Contact Lenses during Non-Contact Tonometry. PLoS ONE, 2014, 9, e96066.	2.5	6
39	LED-CT Scan for pH Distribution on a Cross-Section of Cell Culture Medium. Sensors, 2018, 18, 191.	3.8	6
40	On-Chip Cell Incubator for Simultaneous Observation of Culture with and without Periodic Hydrostatic Pressure. Micromachines, 2019, 10, 133.	2.9	6
41	Scaffold-free tissue-engineered arterial grafts derived from human skeletal myoblasts. Artificial Organs, 2021, 45, 919-932.	1.9	6
42	An Optimum Design for Handling a Visco-elastic Object Based on Maxwell Model. Journal of the Robotics Society of Japan, 2007, 25, 166-172.	0.1	5
43	Dynamic Manipulation Inspired by Handling Mechanism of Pizza Master. Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 2008, 74, 1825-1833.	0.2	5
44	Finger mechanism equipped omnidirectional driving roller. , 2011, , .		5
45	Nonprehensile dynamic manipulation of a sheet-like viscoelastic object. , 2011, , .		5
46	Observability of cell stiffness in micro-channel method. , 2013, , .		5
47	A hybrid actuator system for single particle manipulation on a microfluidic chip. , 2015, , .		5
48	Hybrid actuation for long-term cell manipulation in a microfluidic channel. , 2017, , .		5
49	Measurement of both viscous and elastic constants of a red blood cell in a microchannel. , 2018, , .		5
50	On-chip density mixer enhanced by air chamber. Biomicrofluidics, 2018, 12, 044108.	2.4	5
51	Virtual vortex gear: Unique flow patterns driven by microfluidic inertia leading to pinpoint injection. Biomicrofluidics, 2018, 12, 034114.	2.4	5
52	5ms-stiffness-evaluation of red blood cell. , 2010, , .		4
53	Real time vision based cell stiffness evaluation toward 100% guarantee. , 2011, , .		4
54	Active outline shaping of a rheological object based on plastic deformation distribution. , 2011, , .		4

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55	Study on the omnidirectional driving gear mechanism. , 2012, , .		4
56	On-chip pressure sensing by visualizing PDMS deformation using microbeads. , 2015, , .		4
57	On-Chip Micro Mixer Driven by Elastic Wall with Virtual Actuator. Micromachines, 2021, 12, 217.	2.9	4
58	Normalization of flow-in velocity for improving the evaluation on cell deformability. , 2013, , .		3
59	Intraocular pressure readings obtained through soft contact lenses using four types of tonometer. Clinical Ophthalmology, 2015, 9, 1875.	1.8	3
60	On-chip measurement of cellular mechanical properties using moir&#x00E9; fringe. , 2015, , .		3
61	An on-chip, electricity-free and single-layer pressure sensor for microfluidic applications. , 2015, , .		3
62	Improvement of Tactile Sensitivity under Pressing a Finger Base. Transactions of the Society of Instrument and Control Engineers, 2007, 43, 973-979.	0.2	3
63	On the percussion center of flexible links. , 2011, , .		2
64	Non-contact stiffness sensing with deformation dependent force calibration. , 2011, , .		2
65	&#x03BC;-cell fatigue test. , 2012, , .		2
66	IOP measurement using air-puff tonometry: Dynamic modeling of human eyeball with experimental results. , 2013, , .		2
67	On-chip cellular force measurement by Direct-Outer-Drive mechanism. , 2013, , .		2
68	Realtime cell tracking in a microchannel. , 2013, , .		2
69	Characteristics of vision-based on-chip pressure sensor with different concentrations of sensing fluid. , 2015, , .		2
70	Novel microfluidic chip for extracting cell deformability. , 2015, , .		2
71	Red blood cell deformability upon continuous or repetitive loadings. , 2017, , .		2
72	On-Chip Cell Gym. , 2017, , .		2

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73	Observation of cell pinball through high speed switching between reflection interference and phase contrast. , 2017, , .		2
74	Integration of fluctuation spectroscopy into a microfluidic platform for novel cellular viscoelastic measurement. , 2018, , .		2
75	How to Measure Cellular Shear Modulus Inside a Chip: Detailed Correspondence to the Fluid-Structure Coupling Analysis. , 2019, , .		2
76	On-chip RBC deformability checker embedded with vision analyzer. , 2017, , .		2
77	Toward ischemia dynamics based medical diagnosis. , 2009, , .		1
78	Phase Difference type Imager for Video-Assisted Thoracic Surgery. Journal of Japan Society of Computer Aided Surgery, 2009, 11, 7-13.	0.0	1
79	Empirical based optimal design of Active Strobe Imager. , 2010, , .		1
80	High risk of underestimation of internal eye pressure for elderly people. , 2010, , .		1
81	Inverse problem for stiffness sensing of living soft tissue. , 2010, , .		1
82	High speed cell stiffness evaluation toward 100% reliability. , 2011, , .		1
83	Online measurement of cornea deformation during non-contact tonometry. , 2011, , .		1
84	An experimental study of biologically inspired artificial skin sensor under static loading and dynamic stimuli. , 2011, , .		1
85	Additional manipulating function for limited narrow space with omnidirectional driving gear. , 2012, , .		1
86	Estimation of a thin flexible object with bipedal gaits. , 2012, , .		1
87	Unexpected beads alignment in a microfluidic channel. , 2016, , .		1
88	New noncontact sensor for detecting pulmonary tumors during video-assisted thoracic surgery. Journal of Surgical Research, 2017, 214, 62-68.	1.6	1
89	3000Hz cell manipulation in a microfluidic channel. , 2017, , .		1
90	On-Chip Dynamic Mechanical Measurement. , 2019, , .		1

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91	Rotational manipulation of a microscopic object inside a microfluidic channel. <i>Biomicrofluidics</i> , 2020, 14, 054106.	2.4	1
92	Push/Pull Inequality Based High-Speed On-Chip Mixer Enhanced by Wettability. <i>Micromachines</i> , 2020, 11, 950.	2.9	1
93	Dynamic modeling of robotic fish and its experimental validation. , 2011, , .		1
94	Balloon Type Elasticity Sensing of Left Ventricular Tissue for Small Experimental Animals. <i>Transactions of the Society of Instrument and Control Engineers</i> , 2011, 47, 648-655.	0.2	1
95	Maximization of Jump Height of a Serial Link Robot Based on Particle Swarm Optimization. <i>Journal of the Robotics Society of Japan</i> , 2008, 26, 41-48.	0.1	1
96	Dynamic Sensing of Cornea Deformation during an Air Puff. <i>Transactions of the Society of Instrument and Control Engineers</i> , 2009, 45, 495-501.	0.2	1
97	Dynamic nonprehensile shaping of a thin rheological object. , 2011, , .		1
98	Friction Independent Dynamic Capturing Strategy for a 2D Stick-shaped Object. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007, , .	0.0	0
99	Piercing based grasping by using self-tightening effect. , 2008, , .		0
100	Frequency response dependence to vibration sensitivity by pressing. , 2009, , .		0
101	Droplet Hardness for Living Tissues(Mechanical Systems). <i>Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C</i> , 2009, 75, 1739-1746.	0.2	0
102	Study of the relationship between the strain and strain rate for viscoelastic contact interface in robotic grasping. , 2010, , .		0
103	Bipedal gait like motions of a thin viscoelastic object. , 2011, , .		0
104	Droplet hardness for tissue engineering. , 2012, , .		0
105	Deformation of macula area under compulsory increase of eye pressure. , 2012, , .		0
106	Biomechanical properties of red blood cell through the motion inside a micro-channel. , 2012, , .		0
107	Where future robots should go and should not go. , 2013, , .		0
108	Dynamic nonprehensile shaping of a deformable object by using its gait-like behaviors. , 2013, , .		0

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109	Cell Pinball. , 2014, , .		0
110	Quantitative image analyses of nuclear dynamics in migrating neurons. , 2014, , .		0
111	Measurement of cellular reactive force on a microfluidic chip using moir&#x00E9; fringe. , 2014, , .		0
112	Improving the evaluation of cell deformability by different channel width in a microfluidic device. , 2014, , .		0
113	Mechanical characterization of floating cell using whole chip deformation mechanism. , 2015, , .		0
114	Frequency responses of on-chip pressure sensor with different deformation chambers. , 2015, , .		0
115	Pressure transmitter for local pressure sensing in a microchannel. , 2015, , .		0
116	A method to measure displacement of microscale structures with high resolution and large stroke for cellular characterization. , 2015, , .		0
117	A shooting robot based on the minimum actuator / sensor realization. , 2015, , .		0
118	Fluid Separated Volumetric Flow Converter (FSVFC) for high speed and precise cell position control. , 2015, , .		0
119	Elasticity evaluation of single cell with uniaxial deformation in microfluidic chip. , 2016, , .		0
120	Mechanical characterization system using on-chip probe with wide range actuation. , 2016, , .		0
121	Buckling of RBC under positive and negative driving pressure in a microchannel. , 2016, , .		0
122	Stiffness-index map based on single cell-spheroid analysis using robot integrated microfluidic chip. , 2016, , .		0
123	A Shooting Robot based on the Minimum Actuator/Sensor Realization. Journal of the Robotics Society of Japan, 2016, 34, 153-160.	0.1	0
124	3D pH measurement for cell culture using CT scan. , 2017, , .		0
125	Simultaneous observation of cell behavior on multiple substrates with different heights. , 2017, , .		0
126	Inverse Streamline Mapping for Finding an Optimum Medicine Injection Point in Micro Chamber*. , 2018, , .		0



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127	Vibration based virtual vortex gear. , 2018, , .		0
128	Experimental Study on Microfluidic Mixing with Trapezoidal Obstacles in a 1000-Fold Span of Reynolds Number. , 2019, , .		0
129	Elasticity Evaluation of Red Blood Cell without Force Sensor under Large Deformation. , 2019, , .		0
130	Discovery of Aging Effect of Living Eye through High Speed Non-invasive Sensing. Transactions of the Society of Instrument and Control Engineers, 2006, 42, 1093-1099.	0.2	0
131	Title is missing!. Journal of the Robotics Society of Japan, 2007, 25, 365-367.	0.1	0
132	Stiffness Sensing of Human Eye Based on the Contact Method. Transactions of the Society of Instrument and Control Engineers, 2007, 43, 243-249.	0.2	0
133	Evaluation of Human Skin Dynamic Characteristics Focused on Coupling Effect. Transactions of the Society of Instrument and Control Engineers, 2007, 43, 256-263.	0.2	0
134	Analysis of the Mechanism of the Delay Characteristics in Cornea Deformation for Non-contact Tonometry. Transactions of the Society of Instrument and Control Engineers, 2007, 43, 78-84.	0.2	0
135	Evaluation of Ischemia Dynamics Focused by Recovery Time Constant and Its Application to Human Finger Tip. Transactions of the Society of Instrument and Control Engineers, 2009, 45, 484-490.	0.2	0
136	Active Shaping for a Rheological Object Based on Decomposition into Visco-elastic and Plastic Deformations. Transactions of the Society of Instrument and Control Engineers, 2010, 46, 31-38.	0.2	0
137	Optimal Parameter Determination of Active Strobe Imager. Transactions of the Society of Instrument and Control Engineers, 2010, 46, 791-796.	0.2	0
138	Noninvasive Stiffness Sensing of Ventricular Wall Based on a Thick-walled Cylinder Model. Transactions of the Society of Instrument and Control Engineers, 2010, 46, 24-30.	0.2	0
139	Modeling and Handling of Deformable Object by Nonprehensile Dynamic Manipulation. The Abstracts of the International Conference on Advanced Mechatronics Toward Evolutionary Fusion of IT and Mechatronics ICAM, 2010, 2010.5, 427-432.	0.0	0
140	2A1-R01 Evaluation of Cell Impedance Using a $\hat{1}$ / <sub>4</sub> -channel(Bio Assembler for 3D Cellular System) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2012, 2012, _2A1-R01_1-_2A1-R01_2.	0.0	0
141	Non-contact Stiffness Sensing by Considering the Change of Fluid Force due to Object Deformation. Transactions of the Society of Instrument and Control Engineers, 2012, 48, 295-301.	0.2	0
142	1P1-D10 Osmotic Effect on Living Cells in a Micro-Channel(Bio Assembler for 3D Cellular System) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2013, 2013, _1P1-D10_1-_1P1-D10_2.	0.0	0
143	3P1-B05 Comparison Between the Surface and Global Deformability of Red Blood Cells using AFM and Microfluidic Channel(Bio Assembler for 3D Cellular System Innovation (2)). The Proceedings of JSME Annual Conference on Robotics and Mechatronics (Robomec), 2014, 2014, _3P1-B05_1-_3P1-B05_2.	0.0	0
144	3A1-B05 Non-Dimensional Index for Evaluating RBC Deformability in a Microchannel(Bio Assembler for) Tj ETQq0 0 0 rgBT /Overlock 10 2014, 2014, _3A1-B05_1-_3A1-B05_2.	0.0	0

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145	2D14 Eyeball Deformation Characteristics during Air Jet Application Before and After the Vitreous Surgery. The Proceedings of the Bioengineering Conference Annual Meeting of BED/JSME, 2014, 2014.26, 395-396.	0.0	0
146	1P1-N04 130 Hz High-Speed Cell Manipulation in a Microfluidic Channel. The Proceedings of JSME Annual Conference on Robotics and Mechatronics (Robomec), 2015, 2015, _1P1-N04_1-_1P1-N04_2.	0.0	0
147	On-chip Cellular Force Measurement Using Direct-outer-drive Mechanism. Transactions of the Society of Instrument and Control Engineers, 2015, 51, 2-7.	0.2	0
148	Microfluidic device to apply a mechanical stimulus and enable response evaluation onto cellular nucleus. The Proceedings of JSME Annual Conference on Robotics and Mechatronics (Robomec), 2017, 2017, 2A1-F03.	0.0	0
149	Evaluation of a mechanical stimulus to cellular nucleus by the microfluidic device. The Proceedings of JSME Annual Conference on Robotics and Mechatronics (Robomec), 2018, 2018, 1A1-M16.	0.0	0
150	10.1063/1.5031082.1. , 2018, , .		0
151	Fast and Fine Manipulation of RBCs in Artificial Capillary and Their Mysterious Behaviors. Springer Proceedings in Advanced Robotics, 2022, , 102-113.	1.3	0
152	Active outline shaping of a rheological object based on plastic deformation distribution. , 2011, , .		0