

Makoto Kaneko

List of Publications by Year in descending order

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152
papers

957
citations

430874

18
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552781

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154
all docs

154
docs citations

154
times ranked

845
citing authors

#	ARTICLE	IF	CITATIONS
1	Fast and Fine Manipulation of RBCs in Artificial Capillary and Their Mysterious Behaviors. Springer Proceedings in Advanced Robotics, 2022, , 102-113.	1.3	0
2	On-Chip Micro Mixer Driven by Elastic Wall with Virtual Actuator. Micromachines, 2021, 12, 217.	2.9	4
3	Challenges and Possibilities of Cell-Based Tissue-Engineered Vascular Grafts. Cyborg and Bionic Systems, 2021, 2021, .	7.9	22
4	Scaffold-free tissue-engineered arterial grafts derived from human skeletal myoblasts. Artificial Organs, 2021, 45, 919-932.	1.9	6
5	On-chip cell manipulation and applications to deformability measurements. ROBOMECH Journal, 2020, 7, .	1.6	11
6	Rotational manipulation of a microscopic object inside a microfluidic channel. Biomicrofluidics, 2020, 14, 054106.	2.4	1
7	Push/Pull Inequality Based High-Speed On-Chip Mixer Enhanced by Wettability. Micromachines, 2020, 11, 950.	2.9	1
8	How to Measure Cellular Shear Modulus Inside a Chip: Detailed Correspondence to the Fluid-Structure Coupling Analysis. , 2019, , .		2
9	On-Chip Dynamic Mechanical Measurement. , 2019, , .		1
10	Deformation of a Red Blood Cell in a Narrow Rectangular Microchannel. Micromachines, 2019, 10, 199.	2.9	19
11	On-Chip Cell Incubator for Simultaneous Observation of Culture with and without Periodic Hydrostatic Pressure. Micromachines, 2019, 10, 133.	2.9	6
12	Experimental Study on Microfluidic Mixing with Trapezoidal Obstacles in a 1000-Fold Span of Reynolds Number. , 2019, , .		0
13	Elasticity Evaluation of Red Blood Cell without Force Sensor under Large Deformation. , 2019, , .		0
14	Local traction force in the proximal leading process triggers nuclear translocation during neuronal migration. Neuroscience Research, 2019, 142, 38-48.	1.9	15
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	Inverse Streamline Mapping for Finding an Optimum Medicine Injection Point in Micro Chamber*. , 2018, , .		0
17	Integration of fluctuation spectroscopy into a microfluidic platform for novel cellular viscoelastic measurement. , 2018, , .		2
18	Measurement of both viscous and elastic constants of a red blood cell in a microchannel. , 2018, , .		5

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19	Vibration based virtual vortex gear. , 2018, , .		0
20	On-chip density mixer enhanced by air chamber. Biomicrofluidics, 2018, 12, 044108.	2.4	5
21	LED-CT Scan for pH Distribution on a Cross-Section of Cell Culture Medium. Sensors, 2018, 18, 191.	3.8	6
22	Injectable Hemostat Composed of a Polyphosphate-Conjugated Hyaluronan Hydrogel. Biomacromolecules, 2018, 19, 3280-3290.	5.4	47
23	Virtual vortex gear: Unique flow patterns driven by microfluidic inertia leading to pinpoint injection. Biomicrofluidics, 2018, 12, 034114.	2.4	5
24	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
25	10.1063/1.5031082.1. , 2018, , .		0
26	New noncontact sensor for detecting pulmonary tumors during video-assisted thoracic surgery. Journal of Surgical Research, 2017, 214, 62-68.	1.6	1
27	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
28	Red blood cell deformability upon continuous or repetitive loadings. , 2017, , .		2
29	On-Chip Cell Gym. , 2017, , .		2
30	Observation of cell pinball through high speed switching between reflection interference and phase contrast. , 2017, , .		2
31	Ion-Specific Modulation of Interfacial Interaction Potentials between Solid Substrates and Cell-Sized Particles Mediated via Zwitterionic, Super-Hydrophilic Poly(sulfobetaine) Brushes. Journal of Physical Chemistry B, 2017, 121, 1396-1404.	2.6	17
32	Arterial graft with elastic layer structure grown from cells. Scientific Reports, 2017, 7, 140.	3.3	31
33	Hybrid actuation for long-term cell manipulation in a microfluidic channel. , 2017, , .		5
34	Large Indentation Method to Measure Elasticity of Cell in Robot-Integrated Microfluidic Chip. IEEE Robotics and Automation Letters, 2017, 2, 2002-2007.	5.1	8
35	3D pH measurement for cell culture using CT scan. , 2017, , .		0
36	Simultaneous observation of cell behavior on multiple substrates with different heights. , 2017, , .		0

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37	3000Hz cell manipulation in a microfluidic channel. , 2017, , .		1
38	Red Blood Cell Responses during a Long-Standing Load in a Microfluidic Constriction. Micromachines, 2017, 8, 100.	2.9	11
39	Transfer Function of Macro-Micro Manipulation on a PDMS Microfluidic Chip. Micromachines, 2017, 8, 80.	2.9	8
40	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
41	On-chip RBC deformability checker embedded with vision analyzer. , 2017, , .		2
42	Temporal Transition of Mechanical Characteristics of HUVEC/MSC Spheroids Using a Microfluidic Chip with Force Sensor Probes. Micromachines, 2016, 7, 221.	2.9	23
43	Gravity-Based Precise Cell Manipulation System Enhanced by In-Phase Mechanism. Micromachines, 2016, 7, 116.	2.9	9
44	An On-Chip RBC Deformability Checker Significantly Improves Velocity-Deformation Correlation. Micromachines, 2016, 7, 176.	2.9	31
45	Unexpected beads alignment in a microfluidic channel. , 2016, , .		1
46	On-chip pressure sensor using single-layer concentric chambers. Biomicrofluidics, 2016, 10, 024116.	2.4	20
47	Elasticity evaluation of single cell with uniaxial deformation in microfluidic chip. , 2016, , .		0
48	Mechanical characterization system using on-chip probe with wide range actuation. , 2016, , .		0
49	Buckling of RBC under positive and negative driving pressure in a microchannel. , 2016, , .		0
50	Stiffness-index map based on single cell-spheroid analysis using robot integrated microfluidic chip. , 2016, , .		0
51	A Shooting Robot based on the Minimum Actuator/Sensor Realization. Journal of the Robotics Society of Japan, 2016, 34, 153-160.	0.1	0
52	Catch, load and launch toward on-chip active cell evaluation. , 2016, , .		11
53	Mechanical characterization of floating cell using whole chip deformation mechanism. , 2015, , .		0
54	Frequency responses of on-chip pressure sensor with different deformation chambers. , 2015, , .		0

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55	Pressure transmitter for local pressure sensing in a microchannel. , 2015, , .		0
56	A method to measure displacement of microscale structures with high resolution and large stroke for cellular characterization. , 2015, , .		0
57	Characteristics of vision-based on-chip pressure sensor with different concentrations of sensing fluid. , 2015, , .		2
58	A shooting robot based on the minimum actuator / sensor realization. , 2015, , .		0
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 Method to Measure Mechanical Characteristics of a Single Cell by Using Moiré Fringe. Micromachines, 2015, 6, 660-673.	2.9	34
61	Fluid Separated Volumetric Flow Converter (FSVFC) for high speed and precise cell position control. , 2015, , .		0
62	On-chip pressure sensing by visualizing PDMS deformation using microbeads. , 2015, , .		4
63	Novel microfluidic chip for extracting cell deformability. , 2015, , .		2
64	On-chip measurement of cellular mechanical properties using moiré fringe. , 2015, , .		3
65	An on-chip, electricity-free and single-layer pressure sensor for microfluidic applications. , 2015, , .		3
66	A hybrid actuator system for single particle manipulation on a microfluidic chip. , 2015, , .		5
67	On-chip actuation transmitter for enhancing the dynamic response of cell manipulation using a macro-scale pump. Biomicrofluidics, 2015, 9, 014114.	2.4	19
68	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
69	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
70	High Resolution Cell Positioning Based on a Flow Reduction Mechanism for Enhancing Deformability Mapping. Micromachines, 2014, 5, 1188-1201.	2.9	19
71	Ocular Surface Displacement with and without Contact Lenses during Non-Contact Tonometry. PLoS ONE, 2014, 9, e96066.	2.5	6
72	Cell Pinball. , 2014, , .		0

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73	Quantitative image analyses of nuclear dynamics in migrating neurons. , 2014, , .		0
74	Measurement of cellular reactive force on a microfluidic chip using moiré fringe. , 2014, , .		0
75	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
76	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
77	A New Dimensionless Index for Evaluating Cell Stiffness-Based Deformability in Microchannel. IEEE Transactions on Biomedical Engineering, 2014, 61, 1187-1195.	4.2	47
78	Improving the evaluation of cell deformability by different channel width in a microfluidic device. , 2014, , .		0
79	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
80	3A1-B05 Non-Dimensional Index for Evaluating RBC Deformability in a Microchannel(Bio Assembler for) Tj ETQq0 0 0 rgBT /Overlock 10 Mechatronics (Robomec), 2014, 2014, _3A1-B05_1-_3A1-B05_2.	0.0	0
81	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
82	The gear mechanism with passive rollers: The input mechanism to drive the omnidirectional gear and worm gearing. , 2013, , .		6
83	IOP measurement using air-puff tonometry: Dynamic modeling of human eyeball with experimental results. , 2013, , .		2
84	Where future robots should go and should not go. , 2013, , .		0
85	Normalization of flow-in velocity for improving the evaluation on cell deformability. , 2013, , .		3
86	On-chip cellular force measurement by Direct-Outer-Drive mechanism. , 2013, , .		2
87	Observability of cell stiffness in micro-channel method. , 2013, , .		5
88	Realtime cell tracking in a microchannel. , 2013, , .		2
89	Dynamic nonprehensile shaping of a deformable object by using its gait-like behaviors. , 2013, , .		0
90	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

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91	Tongue elasticity sensing with muscle contraction monitoring. , 2012, , .		6
92	Additional manipulating function for limited narrow space with omnidirectional driving gear. , 2012, , .		1
93	Droplet hardness for tissue engineering. , 2012, , .		0
94	Deformation of macula area under compulsory increase of eye pressure. , 2012, , .		0
95	μ-cell fatigue test. , 2012, , .		2
96	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
97	Estimation of a thin flexible object with bipedal gaits. , 2012, , .		1
98	Biomechanical properties of red blood cell through the motion inside a micro-channel. , 2012, , .		0
99	Phase decomposition of a cell passing through a μ-channel: A method for improving the evaluation of cell stiffness. , 2012, , .		8
100	Modeling, Sensing, and Interpretation of Viscoelastic Contact Interface. Advanced Robotics, 2012, 26, 1393-1418.	1.8	6
101	Study on the omnidirectional driving gear mechanism. , 2012, , .		4
102	Omnidirectional driving gears and their input mechanism with passive rollers. , 2012, , .		13
103	2A1-R01 Evaluation of Cell Impedance Using a 1/4-channel(Bio Assembler for 3D Cellular System) Tj ETQq1 1 0.784314 rgBT /Overlock 2012, 2012, _2A1-R01_1-_2A1-R01_2.	0.0	0
104	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
105	Real time vision based cell stiffness evaluation toward 100% guarantee. , 2011, , .		4
106	Finger mechanism equipped omnidirectional driving roller. , 2011, , .		5
107	On the percussion center of flexible links. , 2011, , .		2
108	Bipedal gait like motions of a thin viscoelastic object. , 2011, , .		0

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109	Non-contact stiffness sensing with deformation dependent force calibration. , 2011, , .		2
110	High speed cell stiffness evaluation toward 100% reliability. , 2011, , .		1
111	Active outline shaping of a rheological object based on plastic deformation distribution. , 2011, , .		4
112	Nonprehensile dynamic manipulation of a sheet-like viscoelastic object. , 2011, , .		5
113	Online measurement of cornea deformation during non-contact tonometry. , 2011, , .		1
114	An experimental study of biologically inspired artificial skin sensor under static loading and dynamic stimuli. , 2011, , .		1
115	Dynamic modeling of robotic fish and its experimental validation. , 2011, , .		1
116	Balloon Type Elasticity Sensing of Left Ventricular Tissue for Small Experimental Animals. Transactions of the Society of Instrument and Control Engineers, 2011, 47, 648-655.	0.2	1
117	Dynamic nonprehensile shaping of a thin rheological object. , 2011, , .		1
118	Active outline shaping of a rheological object based on plastic deformation distribution. , 2011, , .		0
119	A new stiffness evaluation toward high speed cell sorter. , 2010, , .		35
120	Empirical based optimal design of Active Strobe Imager. , 2010, , .		1
121	Study of the relationship between the strain and strain rate for viscoelastic contact interface in robotic grasping. , 2010, , .		0
122	High risk of underestimation of internal eye pressure for elderly people. , 2010, , .		1
123	Inverse problem for stiffness sensing of living soft tissue. , 2010, , .		1
124	5ms-stiffness-evaluation of red blood cell. , 2010, , .		4
125	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
126	Optimal Parameter Determination of Active Strobe Imager. Transactions of the Society of Instrument and Control Engineers, 2010, 46, 791-796.	0.2	0

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127	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
128	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
129	Toward ischemia dynamics based medical diagnosis. , 2009, , .		1
130	Frequency response dependence to vibration sensitivity by pressing. , 2009, , .		0
131	An optimum design of robotic food handling by using Burger model. Intelligent Service Robotics, 2009, 2, 53-60.	2.6	11
132	Armadillo-inspired wheel-leg retractable module. , 2009, , .		12
133	Non-grasp manipulation of deformable object by using pizza handling mechanism. , 2009, , .		13
134	Droplet Hardness for Living Tissues(Mechanical Systems). Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 2009, 75, 1739-1746.	0.2	0
135	Phase Difference type Imager for Video-Assisted Thoracic Surgery. Journal of Japan Society of Computer Aided Surgery, 2009, 11, 7-13.	0.0	1
136	Dynamic Sensing of Cornea Deformation during an Air Puff. Transactions of the Society of Instrument and Control Engineers, 2009, 45, 495-501.	0.2	1
137	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
138	Dexterous hyper plate inspired by pizza manipulation. , 2008, , .		13
139	Piercing based grasping by using self-tightening effect. , 2008, , .		0
140	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
141	Maximization of Jump Height of a Serial Link Robot Based on Particle Swarm Optimization. Journal of the Robotics Society of Japan, 2008, 26, 41-48.	0.1	1
142	Active Strobe Imager for Visualizing Dynamic Behavior of Tumors. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	21
143	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
144	Friction Independent Dynamic Capturing Strategy for a 2D Stick-shaped Object. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	0

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145	Dynamic Capturing Strategy for a 2-D Stick-Shaped Object Based on Friction Independent Collision. , 2007, 23, 541-552.		16
146	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
147	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
148	Title is missing!. Journal of the Robotics Society of Japan, 2007, 25, 365-367.	0.1	0
149	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
150	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
151	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
152	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