

King Wai Chiu Lai

List of Publications by Year in descending order

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Version: 2024-02-01

74
papers

1,394
citations

331259

21
h-index

360668

35
g-index

74
all docs

74
docs citations

74
times ranked

1972
citing authors

#	ARTICLE	IF	CITATIONS
1	Plasmon resonance enhanced colloidal HgSe quantum dot filterless narrowband photodetectors for mid-wave infrared. <i>Journal of Materials Chemistry C</i> , 2017, 5, 362-369.	2.7	111
2	Graphene Field-Effect Transistors for the Sensitive and Selective Detection of <i>Escherichia coli</i> Using Pyrene-Tagged DNA Aptamer. <i>Advanced Healthcare Materials</i> , 2017, 6, 1700736.	3.9	84
3	An ultraflexible polyurethane yarn-based wearable strain sensor with a polydimethylsiloxane infiltrated multilayer sheath for smart textiles. <i>Nanoscale</i> , 2020, 12, 4110-4118.	2.8	75
4	Scalable Fabrication of Infrared Detectors with Multispectral Photoresponse Based on Patterned Colloidal Quantum Dot Films. <i>ACS Photonics</i> , 2016, 3, 2396-2404.	3.2	70
5	Doping effects of surface functionalization on graphene with aromatic molecule and organic solvents. <i>Applied Surface Science</i> , 2017, 425, 713-721.	3.1	70
6	Development of Infrared Detectors Using Single Carbon-Nanotube-Based Field-Effect Transistors. <i>IEEE Nanotechnology Magazine</i> , 2010, 9, 582-589.	1.1	59
7	Investigating dynamic structural and mechanical changes of neuroblastoma cells associated with glutamate-mediated neurodegeneration. <i>Scientific Reports</i> , 2014, 4, 7074.	1.6	58
8	Multiplexed Optogenetic Stimulation of Neurons with Spectrum-Selective Upconversion Nanoparticles. <i>Advanced Healthcare Materials</i> , 2017, 6, 1700446.	3.9	58
9	Investigation of human keratinocyte cell adhesion using atomic force microscopy. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2010, 6, 191-200.	1.7	55
10	Skin-Integrated Graphene-Embedded Lead Zirconate Titanate Rubber for Energy Harvesting and Mechanical Sensing. <i>Advanced Materials Technologies</i> , 2019, 4, 1900744.	3.0	52
11	Topography induced stiffness alteration of stem cells influences osteogenic differentiation. <i>Biomaterials Science</i> , 2020, 8, 2638-2652.	2.6	41
12	Photovoltaic effect in single carbon nanotube-based Schottky diodes. <i>International Journal of Nanoparticles</i> , 2008, 1, 108.	0.1	34
13	Carbon Nanomaterial-Based Biosensors: A Review of Design and Applications. <i>IEEE Nanotechnology Magazine</i> , 2019, 13, 4-14.	0.9	32
14	Cellular level robotic surgery: Nanodissection of intermediate filaments in live keratinocytes. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2015, 11, 137-145.	1.7	31
15	Engineering the band gap of carbon nanotube for infrared sensors. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	30
16	Quantitative Analysis of Human Keratinocyte Cell Elasticity Using Atomic Force Microscopy (AFM). <i>IEEE Transactions on Nanobioscience</i> , 2011, 10, 9-15.	2.2	29
17	Characterization of mechanical behavior of an epithelial monolayer in response to epidermal growth factor stimulation. <i>Experimental Cell Research</i> , 2012, 318, 521-526.	1.2	27
18	Probing for chemotherapy-induced peripheral neuropathy in live dorsal root ganglion neurons with atomic force microscopy. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2014, 10, 1323-1333.	1.7	27

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19	Simulation of Graphene Field-Effect Transistor Biosensors for Bacterial Detection. <i>Sensors</i> , 2018, 18, 1715.	2.1	25
20	Nanoresonant signal boosters for carbon nanotube based infrared detectors. <i>Nanotechnology</i> , 2009, 20, 185201.	1.3	24
21	Modeling the mechanics of cells in the cell-spreading process driven by traction forces. <i>Physical Review E</i> , 2016, 93, 042404.	0.8	23
22	Asphaltenes in asphalt: Direct observation and evaluation of their impacts on asphalt properties. <i>Construction and Building Materials</i> , 2021, 271, 121862.	3.2	23
23	Graphene/HgTe Quantum-Dot Photodetectors with Gate-Tunable Infrared Response. <i>ACS Applied Nano Materials</i> , 2019, 2, 6701-6706.	2.4	22
24	Cellular biophysical dynamics and ion channel activities detected by AFM-based nanorobotic manipulator in insulinoma β -cells. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2013, 9, 636-645.	1.7	21
25	A highly sensitive and selective turn-on fluorescent probe for Pb(II) ions based on a coumarin-quinoline platform. <i>RSC Advances</i> , 2016, 6, 100696-100699.	1.7	21
26	A ratiometric probe based on coumarin-quinoline for highly selective and sensitive detection of Zn ²⁺ ions in living cells. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2018, 355, 487-495.	2.0	21
27	Video Rate Atomic Force Microscopy: Use of compressive scanning for nanoscale video imaging. <i>IEEE Nanotechnology Magazine</i> , 2013, 7, 4-8.	0.9	19
28	Automated process for selection of carbon nanotube by electronic property using dielectrophoretic manipulation. <i>Journal of Micro-Nano Mechatronics</i> , 2008, 4, 37-48.	1.0	17
29	A turn-on fluorescent probe based on coumarin-anhydride for highly sensitive detection of hydrazine in the aqueous solution and gas states. <i>Methods and Applications in Fluorescence</i> , 2017, 5, 015001.	1.1	17
30	Twisted graphene-assisted photocarrier transfer from HgSe colloidal quantum dots into silicon with enhanced collection and transport efficiency. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	17
31	A highly versatile platform based on geometrically well-defined 3D DNA nanostructures for selective recognition and positioning of multiplex targets. <i>Nanoscale</i> , 2016, 8, 18291-18295.	2.8	16
32	Development of an automated microspotting system for rapid dielectrophoretic fabrication of bundled carbon nanotube sensors. <i>IEEE Transactions on Automation Science and Engineering</i> , 2006, 3, 218-227.	3.4	15
33	Dynamic effect of beta-amyloid 42 on cell mechanics. <i>Journal of Biomechanics</i> , 2019, 86, 79-88.	0.9	14
34	Detection of Bacterial Metabolic Volatile Indole Using a Graphene-Based Field-Effect Transistor Biosensor. <i>Nanomaterials</i> , 2021, 11, 1155.	1.9	14
35	Teleoperated service robotic system for on-site surface rust removal and protection of high-rise exterior gas pipes. <i>Automation in Construction</i> , 2021, 125, 103609.	4.8	14
36	An efficient approach of handling and deposition of micro and nano entities using sensorized microfluidic end-effector system. <i>Sensors and Actuators A: Physical</i> , 2008, 147, 6-16.	2.0	12

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37	Photoresponse enhancement in graphene/silicon infrared detector by controlling photocarrier collection. <i>Materials Research Express</i> , 2016, 3, 076203.	0.8	11
38	Cholesterol Modulates the Formation of the $\text{A}\beta^2$ Ion Channel in Lipid Bilayers. <i>Biochemistry</i> , 2020, 59, 992-998.	1.2	11
39	Extracellular Nanomatrix-Induced Self-Organization of Neural Stem Cells into Miniature Substantia Nigra-Like Structures with Therapeutic Effects on Parkinsonian Rats. <i>Advanced Science</i> , 2019, 6, 1901822.	5.6	9
40	Substrate Effect on Atomic Force Microscopy-Based Nanolithography of Graphene. <i>IEEE Nanotechnology Magazine</i> , 2016, 15, 607-613.	1.1	8
41	Computational Modeling of Cell Adhesion Under the Effect of Substrate Stiffness. <i>IEEE Nanotechnology Magazine</i> , 2018, 17, 402-406.	1.1	6
42	Quantitative study of AFM-based nanopatterning of graphene nanoplate. , 2014, , .		5
43	Design and Analysis of Electrical Resistance Feedback for Automated Patch Clamp on Adherent Cells. <i>IEEE Transactions on Automation Science and Engineering</i> , 2017, 14, 844-854.	3.4	5
44	Facile construction of a DNA tetrahedron in unconventional ladder-like arrangements at room temperature. <i>Nanoscale Advances</i> , 2019, 1, 1240-1248.	2.2	5
45	An Active Biomechanical Model of Cell Adhesion Actuated by Intracellular Tensioning-Taxis. <i>Biophysical Journal</i> , 2020, 118, 2656-2669.	0.2	5
46	Interaction of Sp1 and APP promoter elucidates a mechanism for Pb^{2+} caused neurodegeneration. <i>Archives of Biochemistry and Biophysics</i> , 2020, 681, 108265.	1.4	5
47	Multi-objective optimizing for image recovering in compressive sensing. , 2012, , .		4
48	The Development of an Infrared Camera Using Graphene: Achieving Efficient High-Resolution Infrared Images.. <i>IEEE Nanotechnology Magazine</i> , 2012, 6, 4-7.	0.9	4
49	Cell segmentation and pipette identification for automated patch clamp recording. <i>Robotics and Biomimetics</i> , 2014, 1, .	1.7	4
50	Development of an omnidirectional mobile robot using a RGB-D sensor for indoor navigation. , 2014, , .		4
51	Chemical functionalization of graphene with aromatic molecule. , 2015, , .		4
52	Compressive Video Recovery Using Block Match Multi-Frame Motion Estimation Based on Single Pixel Cameras. <i>Sensors</i> , 2016, 16, 318.	2.1	4
53	Development of 3D hyperspectral camera using compressive sensing. , 2012, , .		3
54	Development of the Electric Equivalent Model for the Cytoplasmic Microinjection of Small Adherent Cells. <i>Micromachines</i> , 2017, 8, 216.	1.4	3

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55	Reversible reconfiguration of high-order DNA nanostructures by employing G-quartet toeholds as adhesive units. <i>Nanoscale</i> , 2020, 12, 2464-2471.	2.8	3
56	Design and implementation for image reconstruction of CompressiveSensing using FPGA. , 2013, , .		2
57	Interband and intraband optical transitions in mercury chalcogenide colloidal quantum dots. , 2017, , .		2
58	Biophysical Characteristics of Human Neuroblastoma Cell in Oligomeric β -Amyloid ($\text{A}\beta$) Cytotoxicity. <i>IEEE Transactions on Nanobioscience</i> , 2018, 17, 70-77.	2.2	2
59	Remote Rotary Mixing and Spraying of Plural Component Protective Coating for Underground Pipe Internal Rehabilitation Lining. <i>IEEE Robotics and Automation Letters</i> , 2022, 7, 3114-3121.	3.3	2
60	Analysis of visual-based micromanipulation for patch clamp recording. , 2014, , .		1
61	Tuning graphene/silicon Schottky barrier height by chemical doping. , 2015, , .		1
62	Neural Stimulation: Multiplexed Optogenetic Stimulation of Neurons with Spectrum-Selective Upconversion Nanoparticles (<i>Adv. Healthcare Mater.</i> 17/2017). <i>Advanced Healthcare Materials</i> , 2017, 6, .	3.9	1
63	Learning to Grasp Unknown Objects using Force Feedback. , 2017, , .		1
64	Highly Flexible and Stretchable Structure Based on Au/Graphene Film and Polyurethane Yarn. , 2019, , .		1
65	Image reconstruction of compressive sensing using digital signal processing (DSP). , 2013, , .		0
66	Development of a nanorobotic station for electrophysiology under nanomechanical stimulation. , 2013, , .		0
67	Development of a microfluidic perfusion system for patch clamp recording. , 2014, , .		0
68	Development of a remote workstation for the operation of autonomous navigation mobile robot. , 2015, , .		0
69	Detection of AT1R on H295R cells by functionalized AFM tip. , 2016, , .		0
70	Biosensing: Graphene Field-Effect Transistors for the Sensitive and Selective Detection of <i>Escherichia coli</i> Using Pyrene-Tagged DNA Aptamer (<i>Adv. Healthcare Mater.</i> 19/2017). <i>Advanced Healthcare Materials</i> , 2017, 6, .	3.9	0
71	Identification of energy landscape of Sp1 zinc-finger in Pb(II) or Cd(II) using AFM. <i>Applied Physics Letters</i> , 2019, 114, 013701.	1.5	0
72	Parkinson's Disease: Extracellular Nanomatrix-Induced Self-Organization of Neural Stem Cells into Miniature Substantia Nigra-Like Structures with Therapeutic Effects on Parkinsonian Rats (<i>Adv. Sci.</i>)		0

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73	Investigation on the Coupling Effect Induced by Bilayer Structure of Thin Au Film and Graphene Nanoplates for Strain Gauge. , 2020, , .		0
74	Groove Profile Design and Durability Analysis of Sheave for Robotic Wire Climber System. , 2021, , .		0