

Kyo Seon Hwang

List of Publications by Year in descending order

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77
papers

2,324
citations

201674

27
h-index

223800

46
g-index

78
all docs

78
docs citations

78
times ranked

3188
citing authors

#	ARTICLE	IF	CITATIONS
1	Immunoassay of prostate-specific antigen (PSA) using resonant frequency shift of piezoelectric nanomechanical microcantilever. <i>Biosensors and Bioelectronics</i> , 2005, 20, 2157-2162.	10.1	188
2	In-situ quantitative analysis of a prostate-specific antigen (PSA) using a nanomechanical PZT cantilever. <i>Lab on A Chip</i> , 2004, 4, 547.	6.0	154
3	Label free novel electrical detection using micromachined PZT monolithic thin film cantilever for the detection of C-reactive protein. <i>Biosensors and Bioelectronics</i> , 2004, 20, 269-275.	10.1	125
4	Micro- and Nanocantilever Devices and Systems for Biomolecule Detection. <i>Annual Review of Analytical Chemistry</i> , 2009, 2, 77-98.	5.4	113
5	Microfluidic paper-based biomolecule preconcentrator based on ion concentration polarization. <i>Lab on A Chip</i> , 2016, 16, 2219-2227.	6.0	87
6	Supercritical alcohols as solvents and reducing agents for the synthesis of reduced graphene oxide. <i>Carbon</i> , 2013, 64, 207-218.	10.3	86
7	Detection of Hepatitis B Virus (HBV) DNA at femtomolar concentrations using a silica nanoparticle-enhanced microcantilever sensor. <i>Biosensors and Bioelectronics</i> , 2009, 25, 130-135.	10.1	83
8	Simple and Highly Sensitive Molecular Diagnosis of Zika Virus by Lateral Flow Assays. <i>Analytical Chemistry</i> , 2016, 88, 12272-12278.	6.5	73
9	Dominant surface stress driven by biomolecular interactions in the dynamical response of nanomechanical microcantilevers. <i>Applied Physics Letters</i> , 2006, 89, 173905.	3.3	70
10	Enhancing surface functionality of reduced graphene oxide biosensors by oxygen plasma treatment for Alzheimer's disease diagnosis. <i>Biosensors and Bioelectronics</i> , 2017, 92, 610-617.	10.1	70
11	Nanomechanical microcantilever operated in vibration modes with use of RNA aptamer as receptor molecules for label-free detection of HCV helicase. <i>Biosensors and Bioelectronics</i> , 2007, 23, 459-465.	10.1	57
12	Graphene-based enzyme-modified field-effect transistor biosensor for monitoring drug effects in Alzheimer's disease treatment. <i>Sensors and Actuators B: Chemical</i> , 2018, 272, 448-458.	7.8	56
13	Multiplexed femtomolar detection of Alzheimer's disease biomarkers in biofluids using a reduced graphene oxide field-effect transistor. <i>Biosensors and Bioelectronics</i> , 2020, 167, 112505.	10.1	54
14	A Micro-Fabricated Force Sensor Using an All Thin Film Piezoelectric Active Sensor. <i>Sensors</i> , 2014, 14, 22199-22207.	3.8	48
15	Battery operated preconcentration-assisted lateral flow assay. <i>Lab on A Chip</i> , 2017, 17, 2451-2458.	6.0	43
16	Highly selective reduced graphene oxide (rGO) sensor based on a peptide aptamer receptor for detecting explosives. <i>Scientific Reports</i> , 2019, 9, 10297.	3.3	43
17	Sensitivity enhancement of a dynamic mode microcantilever by stress inducer and mass inducer to detect PSA at low picogram levels. <i>Lab on A Chip</i> , 2009, 9, 2683.	6.0	42
18	A highly sensitive plasma-based amyloid- β^2 detection system through medium-changing and noise cancellation system for early diagnosis of the Alzheimer's disease. <i>Scientific Reports</i> , 2017, 7, 8882.	3.3	41

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19	IGZO-based electrolyte-gated field-effect transistor for in situ biological sensing platform. <i>Sensors and Actuators B: Chemical</i> , 2018, 262, 876-883.	7.8	37
20	Comparative analyses of plasma amyloid- β^2 levels in heterogeneous and monomerized states by interdigitated microelectrode sensor system. <i>Science Advances</i> , 2019, 5, eaav1388.	10.3	34
21	Technological advances in electrochemical biosensors for the detection of disease biomarkers. <i>Biomedical Engineering Letters</i> , 2021, 11, 309-334.	4.1	33
22	Peptide receptor-based selective dinitrotoluene detection using a microcantilever sensor. <i>Biosensors and Bioelectronics</i> , 2011, 30, 249-254.	10.1	32
23	High-ionic-strength pre-concentration via ion concentration polarization for blood-based biofluids. <i>Sensors and Actuators B: Chemical</i> , 2018, 268, 485-493.	7.8	31
24	Sensitivity improvement of an electrical sensor achieved by control of biomolecules based on the negative dielectrophoretic force. <i>Biosensors and Bioelectronics</i> , 2016, 85, 977-985.	10.1	30
25	Amyloid Beta Detection by Faradaic Electrochemical Impedance Spectroscopy Using Interdigitated Microelectrodes. <i>Sensors</i> , 2018, 18, 426.	3.8	30
26	Detection of the Au thin-layer in the Hz per picogram regime based on the microcantilevers. <i>Sensors and Actuators A: Physical</i> , 2007, 135, 857-862.	4.1	29
27	Sensitivity Enhancement of Bead-based Electrochemical Impedance Spectroscopy (BEIS) biosensor by electric field-focusing in microwells. <i>Biosensors and Bioelectronics</i> , 2016, 85, 16-24.	10.1	28
28	Structural Evolution of $\text{Li}_{1-x}\text{Ni}_y\text{Mn}_z\text{Co}_{1-y-z}\text{O}_2$ Cathode Materials during High-Rate Charge and Discharge. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 5758-5763.	4.6	27
29	Wafer-scale high-resolution patterning of reduced graphene oxide films for detection of low concentration biomarkers in plasma. <i>Scientific Reports</i> , 2016, 6, 31276.	3.3	26
30	Analysis of DNA hybridization regarding the conformation of molecular layer with piezoelectric microcantilevers. <i>Lab on A Chip</i> , 2011, 11, 63-69.	6.0	25
31	Longitudinal profiling of oligomeric $\text{A}\beta^2$ in human nasal discharge reflecting cognitive decline in probable Alzheimer's disease. <i>Scientific Reports</i> , 2020, 10, 11234.	3.3	25
32	Multifunctionalized Cantilever Systems for Electronic Nose Applications. <i>Analytical Chemistry</i> , 2012, 84, 8240-8245.	6.5	24
33	Ultra-sensitive detection of brain-derived neurotrophic factor (BDNF) in the brain of freely moving mice using an interdigitated microelectrode (IME) biosensor. <i>Scientific Reports</i> , 2016, 6, 33694.	3.3	24
34	Gold nanoparticles assisted sensitivity improvement of interdigitated microelectrodes biosensor for amyloid- β^2 detection in plasma sample. <i>Sensors and Actuators B: Chemical</i> , 2020, 308, 127710.	7.8	21
35	Graphene-based electronic textile sheet for highly sensitive detection of NO_2 and NH_3 . <i>Sensors and Actuators B: Chemical</i> , 2021, 345, 130361.	7.8	21
36	Nanoelectrokinetic-assisted lateral flow assay for COVID-19 antibody test. <i>Biosensors and Bioelectronics</i> , 2022, 212, 114385.	10.1	21

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37	Toward Exosome-Based Neuronal Diagnostic Devices. <i>Micromachines</i> , 2018, 9, 634.	2.9	20
38	Piezoelectric layer embedded-microdiaphragm sensors for the determination of blood viscosity and density. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	19
39	A Micro-Preconcentrator Combined Olfactory Sensing System with a Micromechanical Cantilever Sensor for Detecting 2,4-Dinitrotoluene Gas Vapor. <i>Sensors</i> , 2015, 15, 18167-18177.	3.8	18
40	Dielectrophoresis-based filtration effect and detection of amyloid beta in plasma for Alzheimer's disease diagnosis. <i>Biosensors and Bioelectronics</i> , 2019, 128, 166-175.	10.1	18
41	An Enhanced Platform to Analyse Low-Affinity Amyloid β Protein by Integration of Electrical Detection and Preconcentrator. <i>Scientific Reports</i> , 2017, 7, 14303.	3.3	17
42	Plasmonic nanoparticle amyloid corona for screening $A\beta$ oligomeric aggregate-degrading drugs. <i>Nature Communications</i> , 2021, 12, 639.	12.8	17
43	Development of a peptide inhibitor-based cantilever sensor assay for cyclic adenosine monophosphate-dependent protein kinase. <i>Analytica Chimica Acta</i> , 2007, 585, 344-349.	5.4	16
44	Electrically-doped CVD-graphene transparent electrodes: application in 365 nm light-emitting diodes. <i>Nanoscale Horizons</i> , 2019, 4, 610-618.	8.0	16
45	Kelvin probe force microscopy of DNA-capped nanoparticles for single-nucleotide polymorphism detection. <i>Nanoscale</i> , 2016, 8, 13537-13544.	5.6	15
46	Microstructure and Adhesion of Au Deposited on Parylene-c Substrate With Surface Modification for Potential Immunoassay Application. <i>IEEE Transactions on Plasma Science</i> , 2004, 32, 505-509.	1.3	14
47	Electrokinetic Size-Based Spatial Separation of Micro/Nanospheres Using Paper-Based 3D Origami Preconcentrator. <i>Analytical Chemistry</i> , 2019, 91, 10744-10749.	6.5	14
48	Ultra-sensitive magnetoelectric microcantilever at a low frequency. <i>Applied Physics Letters</i> , 2012, 101, .	3.3	13
49	Highly sensitive three-dimensional interdigitated microelectrode biosensors embedded with porosity tunable hydrogel for detecting proteins. <i>Sensors and Actuators B: Chemical</i> , 2020, 302, 127190.	7.8	13
50	Multifunctionalized Reduced Graphene Oxide Biosensors for Simultaneous Monitoring of Structural Changes in Amyloid- β 40. <i>Sensors</i> , 2018, 18, 1738.	3.8	12
51	Quantification of disease marker in undiluted serum using an actuating layer-embedded microcantilever. <i>Journal of Applied Physics</i> , 2009, 105, 102017.	2.5	11
52	Direct Electrical Measurement of Protein-Water Interactions and Temperature Dependence Using Piezoelectric Microcantilevers. <i>Advanced Materials</i> , 2011, 23, 2920-2923.	21.0	11
53	Enhancing the Responsivity of Uncooled Infrared Detectors Using Plasmonics for High-Performance Infrared Spectroscopy. <i>Sensors</i> , 2017, 17, 908.	3.8	11
54	Identifying DNA mismatches at single-nucleotide resolution by probing individual surface potentials of DNA-capped nanoparticles. <i>Nanoscale</i> , 2018, 10, 538-547.	5.6	11

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55	A Hybrid Zeolite Membrane-Based Breakthrough for Simultaneous CO ₂ Capture and CH ₄ Upgrading from Biogas. ACS Applied Materials & Interfaces, 2022, 14, 2893-2907.	8.0	11
56	Association Between Plasma Amyloid- β and Neuropsychological Performance in Patients With Cognitive Decline. Frontiers in Aging Neuroscience, 2021, 13, 736937.	3.4	10
57	Selective nanomanipulation of fluorescent polystyrene nano-beads and single quantum dots at gold nanostructures based on the AC-dielectrophoretic force. Nanoscale, 2015, 7, 20277-20283.	5.6	9
58	Nanoparticle-based multiplex biosensor utilising dual dielectrophoretic forces for clinical diagnosis of Alzheimer's disease. Sensors and Actuators B: Chemical, 2022, 355, 131288.	7.8	9
59	Nanoelectrical characterization of amyloid- β 42 aggregates via Kelvin probe force microscopy. Macromolecular Research, 2017, 25, 1187-1191.	2.4	8
60	Electrochemically metal-doped reduced graphene oxide films: Properties and applications. Journal of Materials Science and Technology, 2020, 40, 72-80.	10.7	8
61	Scalable Functionalization of Polyaniline-Grafted rGO Field-Effect Transistors for a Highly Sensitive Enzymatic Acetylcholine Biosensor. Biosensors, 2022, 12, 279.	4.7	8
62	Rapid discrimination of DNA strands using an opto-calorimetric microcantilever sensor. Lab on A Chip, 2014, 14, 4659-4664.	6.0	7
63	Highly Sensitive Micropatterned Interdigitated Electrodes for Enhancing the Concentration Effect Based on Dielectrophoresis. Sensors, 2019, 19, 4152.	3.8	7
64	Multiplex SNP Genotyping Using SWITCH: Sequence-Specific Nanoparticle with Interpretative Threshold-Mediated Sequence Decoding in Hydrogel. Small, 2022, 18, e2105538.	10.0	7
65	Anomalous resonant frequency changes in piezoelectric microcantilevers by monolayer formation of Au films. Applied Physics Letters, 2011, 99, 143701.	3.3	6
66	Fabrication and characterization of PZT (lead zirconate titanate) bridge-shaped resonator for mass sensing application. Journal of Electroceramics, 2012, 29, 225-234.	2.0	6
67	Clinical application of serological Alzheimer's disease diagnosis using a highly sensitive biosensor with hydrogel-enhanced dielectrophoretic force. Biosensors and Bioelectronics, 2022, 195, 113668.	10.1	6
68	Surface Functionalization of Enzyme-Coronated Gold Nanoparticles with an Erythrocyte Membrane for Highly Selective Glucose Assays. Analytical Chemistry, 2022, 94, 6473-6481.	6.5	6
69	Effects of water molecules on binding kinetics of peptide receptor on a piezoelectric microcantilever. Applied Physics Letters, 2012, 101, .	3.3	4
70	Screening for cerebral amyloid angiopathy based on serological biomarkers analysis using a dielectrophoretic force-driven biosensor platform. Lab on A Chip, 2021, 21, 4557-4565.	6.0	4
71	Fabrication and characterization of piezoelectric driven microdiaphragm resonating sensor for a biosensing application. Journal of Electroceramics, 2014, 32, 383-389.	2.0	3
72	Dependence of Impedance Measurement Sensitivity of Cell Growth on Sensing Area of Circular Interdigitated Electrode. Journal of Nanoscience and Nanotechnology, 2015, 15, 7886-7890.	0.9	3

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73	Study of Alzheimer's Disease-Related Biophysical Kinetics with a Microslit-Embedded Cantilever Sensor in a Liquid Environment. <i>Sensors</i> , 2017, 17, 1819.	3.8	3
74	Adhesive Leaf Created by a Corona Discharge. <i>Scientific Reports</i> , 2018, 8, 1737.	3.3	2
75	Tb _{0.3} Dy _{0.7} Fe _{1.9} /PbZr _{0.52} Ti _{0.48} O ₃ Micro-Bridge on SiN _x Thin Film for Low Frequency Magnetic Sensing Applications. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 10MC10.	1.5	0
76	Analytical calculation and fabrication of FET-embedded capacitive micromachined ultrasonic transducer. , 2017, , .		0
77	A Simple Separation Method of the Protein and Polystyrene Bead-Labeled Protein for Enhancing the Performance of Fluorescent Sensor. <i>Journal of Analytical Methods in Chemistry</i> , 2018, 2018, 1-7.	1.6	0