

# Wei-Heng Shih

## List of Publications by Year in descending order

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95  
papers

3,168  
citations

147801

31  
h-index

161849

54  
g-index

100  
all docs

100  
docs citations

100  
times ranked

3795  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of length, width, and mode on the mass detection sensitivity of piezoelectric unimorph cantilevers. <i>Journal of Applied Physics</i> , 2002, 91, 1680-1686.	2.5	234
2	Size Effects in Barium Titanate Particles and Clusters. <i>Journal of the American Ceramic Society</i> , 1997, 80, 2844-2852.	3.8	174
3	A Non-surfactant Templating Route to Mesoporous Silica Materials. <i>Advanced Materials</i> , 1998, 10, 313-316.	21.0	166
4	A General Method for the Conversion of Fly Ash into Zeolites as Ion Exchangers for Cesium. <i>Industrial &amp; Engineering Chemistry Research</i> , 1998, 37, 71-78.	3.7	159
5	Elastic and Yield Behavior of Strongly Flocculated Colloids. <i>Journal of the American Ceramic Society</i> , 1999, 82, 616-624.	3.8	140
6	Synthesis and Characterization of Aqueous Carboxyl-Capped CdS Quantum Dots for Bioapplications. <i>Industrial &amp; Engineering Chemistry Research</i> , 2007, 46, 2013-2019.	3.7	132
7	Flow Energy Harvesting Using Piezoelectric Cantilevers With Cylindrical Extension. <i>IEEE Transactions on Industrial Electronics</i> , 2013, 60, 1116-1118.	7.9	131
8	Synthesis of Zeolites A and X from Fly Ashes and Their Ion-Exchange Behavior with Cobalt Ions. <i>Industrial &amp; Engineering Chemistry Research</i> , 2000, 39, 4185-4191.	3.7	117
9	Electrical Polarization-Induced Ultrahigh Responsivity Photodetectors Based on Graphene and Graphene Quantum Dots. <i>Advanced Functional Materials</i> , 2016, 26, 620-628.	14.9	98
10	Non-heavy-metal ZnS quantum dots with bright blue photoluminescence by a one-step aqueous synthesis. <i>Nanotechnology</i> , 2007, 18, 205604.	2.6	94
11	In situ cell detection using piezoelectric lead zirconate titanate-stainless steel cantilevers. <i>Journal of Applied Physics</i> , 2003, 93, 619-625.	2.5	93
12	Electromechanical Behavior of PZT-Brass Unimorphs. <i>Journal of the American Ceramic Society</i> , 1999, 82, 1733-1740.	3.8	87
13	Wrinkled 2D Materials: A Versatile Platform for Low-Threshold Stretchable Random Lasers. <i>Advanced Materials</i> , 2017, 29, 1703549.	21.0	85
14	A Highly Sensitive Graphene-Organic Hybrid Photodetector with a Piezoelectric Substrate. <i>Advanced Functional Materials</i> , 2014, 24, 6818-6825.	14.9	84
15	Graphene Sandwich Stable Perovskite Quantum-Dot Light-Emissive Ultrasensitive and Ultrafast Broadband Vertical Phototransistors. <i>ACS Nano</i> , 2019, 13, 12540-12552.	14.6	69
16	Soft-materials elastic and shear moduli measurement using piezoelectric cantilevers. <i>Review of Scientific Instruments</i> , 2005, 76, 064302.	1.3	56
17	Synthesis of mesoporous aluminum oxide with aluminum alkoxide and tartaric acid. <i>Materials Letters</i> , 2000, 42, 143-149.	2.6	51
18	Self-exciting, self-sensing PbZr <sub>0.53</sub> Ti <sub>0.47</sub> O <sub>3</sub> ·SiO <sub>2</sub> piezoelectric microcantilevers with femtogram/Hertz sensitivity. <i>Applied Physics Letters</i> , 2006, 89, 023506.	3.3	44

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19	Rheology and Consolidation of Colloidal Alumina-Coated Silicon Nitride Suspensions. Journal of the American Ceramic Society, 1996, 79, 1155-1162.	3.8	43
20	Effect of a Transverse Tensile Stress on the Electric-Field-Induced Domain Reorientation in Soft PZT: <i>In Situ</i> XRD Study. Journal of the American Ceramic Society, 2002, 85, 844-850.	3.8	42
21	Electromechanical Properties of a Ceramic $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ Gradient Flextensional Actuator. Journal of the American Ceramic Society, 2001, 84, 996-1003.	3.8	41
22	Single-Step Calcination Synthesis of Pyrochlore-Free $0.9\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ and $0.1\text{PbTiO}_3$ and $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$ Ceramics Using a Coating Method. Journal of the American Ceramic Society, 2003, 86, 217-221.	3.8	41
23	Highly Photoluminescent and Stable Aqueous ZnS Quantum Dots. Industrial & Engineering Chemistry Research, 2010, 49, 578-582.	3.7	39
24	Mass detection sensitivity of piezoelectric cantilevers with a nonpiezoelectric extension. Review of Scientific Instruments, 2006, 77, 065101.	1.3	38
25	Effect of Antimony Concentration on the Crystalline Structure, Dielectric, and Piezoelectric Properties of $(\text{Na}_{0.5}\text{K}_{0.5})_{0.945}\text{Li}_{0.055}\text{Nb}_{1-x}\text{Sb}_x\text{O}_3$ Solid Solutions. Journal of the American Ceramic Society, 2007, 90, 3070-3072.	3.8	38
26	Variable piezoelectricity of electrospun chitin. Carbohydrate Polymers, 2018, 195, 218-224.	10.2	38
27	Boehmite Coating as a Consolidation and Forming Aid in Aqueous Silicon Nitride Processing. Journal of the American Ceramic Society, 1995, 78, 1252-1260.	3.8	35
28	Multicolor Ultralow-Threshold Random Laser Assisted by Vertical Graphene Network. Advanced Optical Materials, 2018, 6, 1800382.	7.3	35
29	Scaling Analysis for the Axial Displacement and Pressure of Flextensional Transducers. Journal of the American Ceramic Society, 1997, 80, 1073-1078.	3.8	34
30	Control of morphology, photoluminescence, and stability of colloidal methylammonium lead bromide nanocrystals by oleylamine capping molecules. Journal of Colloid and Interface Science, 2016, 484, 17-23.	9.4	33
31	Stable aqueous ZnS quantum dots obtained using (3-mercaptopropyl)trimethoxysilane as a capping molecule. Nanotechnology, 2007, 18, 495605.	2.6	32
32	Graphene-lead zirconate titanate optothermal field effect transistors. Applied Physics Letters, 2012, 100, 113507.	3.3	31
33	Flexible inorganic $\text{CsPbI}_3$ perovskite nanocrystal-PMMA composite films with enhanced stability in air and water for white light-emitting diodes. Nanotechnology, 2020, 31, 225602.	2.6	28
34	Sheet geometry enhanced giant piezoelectric coefficients. Applied Physics Letters, 2006, 89, 242913.	3.3	26
35	Piezoelectric ceramic disks with thickness-graded material properties. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 1999, 46, 205-215.	3.0	25
36	Patil-like soft-material elastic modulus measurement using piezoelectric cantilevers. Review of Scientific Instruments, 2006, 77, 044302.	1.3	25

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37	Facile Preparation and Self-Assembly of Monodisperse Polystyrene Nanospheres for Photonic Crystals. <i>Journal of Nanoscience and Nanotechnology</i> , 2015, 15, 3239-3243.	0.9	25
38	Equilibrium-State Density Profiles of Centrifuged Cakes. <i>Journal of the American Ceramic Society</i> , 1994, 77, 540-546.	3.8	24
39	Control of oleylamine to perovskite ratio in synthesis of MAPbBr <sub>3</sub> nanoparticles. <i>Chemical Physics Letters</i> , 2018, 702, 21-25.	2.6	23
40	Vibrations and static responses of asymmetric bimorph disks of piezoelectric ceramics. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2000, 47, 706-715.	3.0	21
41	Effect of Acid on the Coating of Boehmite onto Silicon Carbide Particles in Aqueous Suspensions. <i>Journal of the American Ceramic Society</i> , 1999, 82, 436-440.	3.8	21
42	Methyltrimethoxysilane-insulated piezoelectric microcantilevers for direct, all-electrical biodetection in buffered aqueous solutions. <i>Review of Scientific Instruments</i> , 2006, 77, 125105.	1.3	21
43	All-electrical indentation shear modulus and elastic modulus measurement using a piezoelectric cantilever with a tip. <i>Journal of Applied Physics</i> , 2007, 101, 054510.	2.5	20
44	Ultrafine titanate powders produced via a precursor-modified sol-gel method. <i>Ferroelectrics</i> , 1994, 154, 241-246.	0.6	19
45	Elimination of an isolated pore: Effect of grain size. <i>Journal of Materials Research</i> , 1995, 10, 1000-1015.	2.6	18
46	Conversion of Class-F Fly Ash to Zeolites. <i>Materials Research Society Symposia Proceedings</i> , 1994, 371, 39.	0.1	17
47	Improved Aqueous Dispersion of Silicon Nitride with Aminosilanes. <i>Journal of the American Ceramic Society</i> , 1996, 79, 2940-2946.	3.8	15
48	Effects of Boehmite Coating Thickness on the Consolidation and Rheological Properties of Boehmite-Coated SiC Suspensions. <i>Journal of the American Ceramic Society</i> , 2001, 84, 2834-2840.	3.8	15
49	Gelation, Consolidation, and Rheological Properties of Boehmite-Coated Silicon Carbide Suspensions. <i>Journal of the American Ceramic Society</i> , 2000, 83, 1879-1884.	3.8	15
50	Transfection of aqueous CdS quantum dots using polyethylenimine. <i>Nanotechnology</i> , 2008, 19, 475101.	2.6	15
51	Mechanism of the flexural resonance frequency shift of a piezoelectric microcantilever sensor in a dc bias electric field. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	15
52	Rheology of aqueous boehmite-coated silicon nitride suspensions and gels. <i>Journal of Materials Research</i> , 1995, 10, 2808-2816.	2.6	13
53	Effects of Copper Coating on the Crystalline Structure of Fine Barium Titanate Particles. <i>Journal of the American Ceramic Society</i> , 1997, 80, 2781-2788.	3.8	13
54	Length and thickness dependence of longitudinal flexural resonance frequency shifts of a piezoelectric microcantilever sensor due to Young's modulus change. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	13

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55	Quantitative assessment of Tn antigen in breast tissue micro-arrays using CdSe aqueous quantum dots. <i>Biomaterials</i> , 2014, 35, 2971-2980.	11.4	13
56	Rapid, label-free genetic detection of enteropathogens in stool without genetic isolation or amplification. <i>Biosensors and Bioelectronics</i> , 2019, 130, 73-80.	10.1	13
57	Improving Stability of Cesium Lead Iodide Perovskite Nanocrystals by Solution Surface Treatments. <i>ACS Omega</i> , 2020, 5, 18013-18020.	3.5	13
58	Low-Temperature, Single Step, Reactive Sintering of Lead Magnesium Niobate Using Mg(OH) <sub>2</sub> -Coated Nb <sub>2</sub> O <sub>5</sub> Powders. <i>Journal of the American Ceramic Society</i> , 2005, 88, 1435-1443.	3.8	12
59	Development of array piezoelectric fingers towards <i>in vivo</i> breast tumor detection. <i>Review of Scientific Instruments</i> , 2016, 87, 124301.	1.3	12
60	Direct observation of two-step polarization reversal by an opposite field in a substrate-free piezoelectric thin sheet. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	11
61	Ultrahighly Photosensitive and Highly Stretchable Rippled Structure Photodetectors Based on Perovskite Nanocrystals and Graphene. <i>ACS Applied Electronic Materials</i> , 2019, 1, 1517-1526.	4.3	11
62	High-conjugation-efficiency aqueous CdSe quantum dots. <i>Analyst, The</i> , 2013, 138, 7316.	3.5	10
63	Amplification-free in situ KRAS point mutation detection at 60 copies per mL in urine in a background of 1000-fold wild type. <i>Analyst, The</i> , 2016, 141, 1421-1433.	3.5	10
64	The effects of containers of precursors on the properties of zirconia powders. <i>Microporous and Mesoporous Materials</i> , 2003, 59, 29-34.	4.4	9
65	Effect of Sodium on Crystallite Size and Surface Area of Zirconia Powders at Elevated Temperatures. <i>Journal of the American Ceramic Society</i> , 2000, 83, 2055-2061.	3.8	9
66	Heteroflocculation in Binary Colloidal Suspensions: Monte Carlo Simulations. <i>Journal of the American Ceramic Society</i> , 1996, 79, 2587-2591.	3.8	8
67	Comparison in the Coating of Mg(OH) <sub>2</sub> on Micron-Sized and Nanometer-Sized Nb <sub>2</sub> O <sub>5</sub> Particles. <i>International Journal of Applied Ceramic Technology</i> , 2004, 1, 146-154.	2.1	7
68	Single ZnO nanowire-PZT optothermal field effect transistors. <i>Nanotechnology</i> , 2012, 23, 355201.	2.6	7
69	In situ, amplification-free double-stranded mutation detection at 60 copies/ml with thousand-fold wild type in urine. <i>Biosensors and Bioelectronics</i> , 2018, 119, 221-229.	10.1	7
70	Enhancing the photoluminescence of SnS quantum dots by ZnS treatment. <i>Chemical Physics Letters</i> , 2020, 754, 137696.	2.6	7
71	Water-resistant and flexible all-inorganic perovskite nanocrystals films for white light-emitting applications. <i>Journal of Materials Research</i> , 2021, 36, 1835-1845.	2.6	6
72	Stabilization of MAPbI <sub>3</sub> Nanocrystals by Dual Ligands for Photodetectors. <i>ACS Applied Nano Materials</i> , 2021, 4, 10334-10343.	5.0	6

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73	Double Precursor Solution Coating Approach for Low-Temperature Sintering of [Pb(Mg <sub>1/3</sub> Nb <sub>2/3</sub> )O <sub>3</sub> ] <sub>0.63</sub> [PbTiO <sub>3</sub> ] <sub>0.37</sub> Solids. Journal of the American Ceramic Society, 2007, 90, 070929025416005-???	3.8	5
74	Enhancing detection sensitivity of piezoelectric plate sensor by increasing transverse electromechanical coupling constant. Journal of Applied Physics, 2013, 114, 064505.	2.5	5
75	Charge-Neutral, Stable, Non-Cytotoxic, Near-Infrared SnS Aqueous Quantum Dots for High Signal-to-Noise Ratio Biomedical Imaging. ChemistrySelect, 2017, 2, 7332-7339.	1.5	5
76	Mechanical Properties of Colloidal Gels Subject to Particle Rearrangement. Materials Research Society Symposia Proceedings, 1990, 195, 477.	0.1	4
77	Equilibrium-State Density Profiles of Centrifuged Cakes of Flocculated Suspensions. Materials Research Society Symposia Proceedings, 1992, 289, 251.	0.1	3
78	Exploring all-electrical soft-tissue stiffness measurement using piezoelectric unimorph cantilevers. , O, , .		3
79	Piezoelectric Plate Sensor (PEPS) for Analysis of Specific KRAS Point Mutations at Low Copy Number in Urine Without DNA Isolation or Amplification. Methods in Molecular Biology, 2017, 1572, 327-348.	0.9	2
80	A model study of 3-dimensional localization of breast tumors using piezoelectric fingers of different probe sizes. Review of Scientific Instruments, 2019, 90, 015006.	1.3	2
81	Boehmite and Yttrium Oxide Coatings on Silicon Nitride From Aqueous Sols. Materials Research Society Symposia Proceedings, 1996, 432, 201.	0.1	1
82	80 MHz Intravascular Ultrasound (IVUS) transducer. , 2011, , .		1
83	A Non-surfactant Templating Route to Mesoporous Silica Materials. Advanced Materials, 1998, 10, 313-316.	21.0	1
84	Thermodynamic Stability of Titanium-Aluminum Alloys in Air. Ceramic Engineering and Science Proceedings, 0, , 173-180.	0.1	1
85	Sintering Behavior of an Isolated Pore: Monte Carlo Simulation. Materials Research Society Symposia Proceedings, 1988, 138, 125.	0.1	0
86	Crystallization Behavior in Precursor-Modified Sol-Gel Lead. Materials Research Society Symposia Proceedings, 1992, 284, 481.	0.1	0
87	Improved Dispersion of Silicon Nitride Whiskers. Materials Research Society Symposia Proceedings, 1994, 365, 29.	0.1	0
88	Porous Materials from Fly Ash. Materials Research Society Symposia Proceedings, 1996, 431, 69.	0.1	0
89	Real-Time Salmonella Detection Using Lead Zirconate Titanate-Titanium Microcantilevers. Materials Research Society Symposia Proceedings, 2004, 845, 87.	0.1	0
90	Response to "Comment on "Mechanism of flexural resonance frequency shift of a piezoelectric microcantilever sensor during humidity detection" [Appl. Phys. Lett. 93, 096101 (2008)]" Applied Physics Letters, 2008, 93, 096102.	3.3	0

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91	Synthesis of $\text{Na}_{0.5}\text{K}_{0.5}\text{NbO}_3$ Piezoelectrics by a Solution Coating Approach. <i>International Journal of Applied Ceramic Technology</i> , 2009, 6, 205-215.	2.1	0
92	Lead-Free Piezoelectric Freestanding Films with Sheet Geometry-Enhanced High-Field Piezoelectric Coefficients. <i>Journal of the American Ceramic Society</i> , 2010, 93, 1852-1855.	3.8	0
93	Advanced Green Energy Nanomaterials for Optoelectronic Devices: Synthesis, Processing, Characterization, and Applications. <i>Journal of Nanomaterials</i> , 2016, 2016, 1-1.	2.7	0
94	Random Lasers: Multicolor Ultralow-Threshold Random Laser Assisted by Vertical-Graphene Network ( <i>Advanced Optical Materials</i> 16/2018). <i>Advanced Optical Materials</i> , 2018, 6, 1870063.	7.3	0
95	Cesium lead iodide electrospun fibrous membranes for white light-emitting diodes. <i>Nanotechnology</i> , 0, , .	2.6	0