Soong Ju Oh

List of Publications by Year
in descending order

92 papers	5,108 citations	126901 33 h-index	88628 70 g-index
94 all docs	94 docs citations	94 times ranked	7883 citing authors

#	Article	IF	Citations
1	Soft, stretchable, fully implantable miniaturized optoelectronic systems for wireless optogenetics. Nature Biotechnology, 2015, 33, 1280-1286.	17.5	658
2	Wrinkles and deep folds as photonic structures in photovoltaics. Nature Photonics, 2012, 6, 327-332.	31.4	346
3	Bandlike Transport in Strongly Coupled and Doped Quantum Dot Solids: A Route to High-Performance Thin-Film Electronics. Nano Letters, 2012, 12, 2631-2638.	9.1	340
4	Thiocyanate-Capped Nanocrystal Colloids: Vibrational Reporter of Surface Chemistry and Solution-Based Route to Enhanced Coupling in Nanocrystal Solids. Journal of the American Chemical Society, 2011, 133, 15753-15761.	13.7	309
5	Metal-Enhanced Upconversion Luminescence Tunable through Metal Nanoparticleâ€"Nanophosphor Separation. ACS Nano, 2012, 6, 8758-8766.	14.6	262
6	Exploiting the colloidal nanocrystal library to construct electronic devices. Science, 2016, 352, 205-208.	12.6	234
7	Stoichiometric Control of Lead Chalcogenide Nanocrystal Solids to Enhance Their Electronic and Optoelectronic Device Performance. ACS Nano, 2013, 7, 2413-2421.	14.6	210
8	Designing High-Performance PbS and PbSe Nanocrystal Electronic Devices through Stepwise, Post-Synthesis, Colloidal Atomic Layer Deposition. Nano Letters, 2014, 14, 1559-1566.	9.1	176
9	Reproducible hysteresis and resistive switching in metal-CuxO-metal heterostructures. Applied Physics Letters, 2007, 90, 042107.	3.3	173
10	Photocatalytic Hydrogen Evolution from Substoichiometric Colloidal WO_{3â€"<i>x</i>} Nanowires. ACS Energy Letters, 2018, 3, 1904-1910.	17.4	145
11	Plasmon-Enhanced Upconversion Luminescence in Single Nanophosphorâ€"Nanorod Heterodimers Formed through Template-Assisted Self-Assembly. ACS Nano, 2014, 8, 9482-9491.	14.6	127
12	Three-dimensional electronic microfliers inspired by wind-dispersed seeds. Nature, 2021, 597, 503-510.	27.8	120
13	Highly Sensitive Temperature Sensor: Ligandâ€Treated Ag Nanocrystal Thin Films on PDMS with Thermal Expansion Strategy. Advanced Functional Materials, 2019, 29, 1903047.	14.9	102
14	Engineering Charge Injection and Charge Transport for High Performance PbSe Nanocrystal Thin Film Devices and Circuits. Nano Letters, 2014, 14, 6210-6216.	9.1	100
15	Bistable Magnetoresistance Switching in Exchange-Coupled CoFe₂O₄â€"Fe₃O₄ Binary Nanocrystal Superlattices by Self-Assembly and Thermal Annealing. ACS Nano, 2013, 7, 1478-1486.	14.6	85
16	Colored emitters with silica-embedded perovskite nanocrystals for efficient daytime radiative cooling. Nano Energy, 2021, 79, 105461.	16.0	82
17	Multiscale Periodic Assembly of Striped Nanocrystal Superlattice Films on a Liquid Surface. Nano Letters, 2011, 11, 841-846.	9.1	79
18	Small-Molecule Thiophene-C₆₀ Dyads As Compatibilizers in Inverted Polymer Solar Cells. Chemistry of Materials, 2010, 22, 5762-5773.	6.7	68

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19	Improvement of reproducible hysteresis and resistive switching in metal-La0.7Ca0.3MnO3-metal heterostructures by oxygen annealing. Applied Physics Letters, 2007, 90, 182118.	3.3	60
20	Multifunctional Daytime Radiative Cooling Devices with Simultaneous Light-Emitting and Radiative Cooling Functional Layers. ACS Applied Materials & Interfaces, 2020, 12, 54763-54772.	8.0	60
21	Engineering the Charge Transport of Ag Nanocrystals for Highly Accurate, Wearable Temperature Sensors through All-Solution Processes. Small, 2017, 13, 1700247.	10.0	55
22	<i>In Situ</i> Repair of High-Performance, Flexible Nanocrystal Electronics for Large-Area Fabrication and Operation in Air. ACS Nano, 2013, 7, 8275-8283.	14.6	52
23	Near-Infrared Absorption of Monodisperse Silver Telluride (Ag₂Te) Nanocrystals and Photoconductive Response of Their Self-Assembled Superlattices. Chemistry of Materials, 2011, 23, 4657-4659.	6.7	51
24	Diketopyrrolopyrrole-Based Ï€-Bridged Donorâ€"Acceptor Polymer for Photovoltaic Applications. ACS Applied Materials & Interfaces, 2011, 3, 3874-3883.	8.0	43
25	Wearable sensors based on colloidal nanocrystals. Nano Convergence, 2019, 6, 10.	12.1	43
26	Multiaxial and Transparent Strain Sensors Based on Synergetically Reinforced and Orthogonally Cracked Heteroâ€Nanocrystal Solids. Advanced Functional Materials, 2019, 29, 1806714.	14.9	41
27	Air-Stable, Nanostructured Electronic and Plasmonic Materials from Solution-Processable, Silver Nanocrystal Building Blocks. ACS Nano, 2014, 8, 2746-2754.	14.6	40
28	Hierarchical Materials Design by Pattern Transfer Printing of Self-Assembled Binary Nanocrystal Superlattices. Nano Letters, 2017, 17, 1387-1394.	9.1	40
29	Designing Metallic and Insulating Nanocrystal Heterostructures to Fabricate Highly Sensitive and Solution Processed Strain Gauges for Wearable Sensors. Small, 2017, 13, 1702534.	10.0	40
30	Chemically Designed Metallic/Insulating Hybrid Nanostructures with Silver Nanocrystals for Highly Sensitive Wearable Pressure Sensors. ACS Applied Materials & Interfaces, 2018, 10, 1389-1398.	8.0	38
31	Wireless Microfluidic Systems for Programmed, Functional Transformation of Transient Electronic Devices. Advanced Functional Materials, 2015, 25, 5100-5106.	14.9	37
32	Durable and Fatigueâ€Resistant Soft Peripheral Neuroprosthetics for In Vivo Bidirectional Signaling. Advanced Materials, 2021, 33, e2007346.	21.0	37
33	Engineering the surface chemistry of lead chalcogenide nanocrystal solids to enhance carrier mobility and lifetime in optoelectronic devices. Chemical Communications, 2017, 53, 728-731.	4.1	35
34	Effects of Post-Synthesis Processing on CdSe Nanocrystals and Their Solids: Correlation between Surface Chemistry and Optoelectronic Properties. Journal of Physical Chemistry C, 2014, 118, 27097-27105.	3.1	33
35	Engineering surface ligands of nanocrystals to design high performance strain sensor arrays through solution processes. Journal of Materials Chemistry C, 2017, 5, 2442-2450.	5.5	33
36	Crystallographic anisotropy of the resistivity size effect in single crystal tungsten nanowires. Scientific Reports, 2013, 3, 2591.	3.3	32

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37	Selective p- and n-Doping of Colloidal PbSe Nanowires To Construct Electronic and Optoelectronic Devices. ACS Nano, 2015, 9, 7536-7544.	14.6	32
38	Ambipolar and Unipolar PbSe Nanowire Field-Effect Transistors. ACS Nano, 2011, 5, 3230-3236.	14.6	31
39	Surface Design of Nanocrystals for High-Performance Multifunctional Sensors in Wearable and Attachable Electronics. Chemistry of Materials, 2019, 31, 436-444.	6.7	31
40	Remote Doping and Schottky Barrier Formation in Strongly Quantum Confined Single PbSe Nanowire Field-Effect Transistors. ACS Nano, 2012, 6, 4328-4334.	14.6	30
41	Colloidal-annealing of ZnO nanoparticles to passivate traps and improve charge extraction in colloidal quantum dot solar cells. Nanoscale, 2019, 11, 17498-17505.	5.6	26
42	Gate-Induced Carrier Delocalization in Quantum Dot Field Effect Transistors. Nano Letters, 2014, 14, 5948-5952.	9.1	25
43	Noninterference Wearable Strain Sensor: Near-Zero Temperature Coefficient of Resistance Nanoparticle Arrays with Thermal Expansion and Transport Engineering. ACS Nano, 2021, 15, 8120-8129.	14.6	25
44	Designing High-Performance CdSe Nanocrystal Thin-Film Transistors Based on Solution Process of Simultaneous Ligand Exchange, Trap Passivation, and Doping. Chemistry of Materials, 2019, 31, 9389-9399.	6.7	23
45	Post-synthetic oriented attachment of CsPbBr₃ perovskite nanocrystal building blocks: from first principle calculation to experimental demonstration of size and dimensionality (0D/1D/2D). Nanoscale Horizons, 2020, 5, 960-970.	8.0	23
46	Ink-Lithography for Property Engineering and Patterning of Nanocrystal Thin Films. ACS Nano, 2021, 15, 15667-15675.	14.6	23
47	Allâ€Solution Processed Multicolor Patterning Technique of Perovskite Nanocrystal for Color Pixel Array and Flexible Optoelectronic Devices. Advanced Optical Materials, 2020, 8, 2000501.	7.3	23
48	Patterning Allâ€Inorganic Halide Perovskite with Adjustable Phase for Highâ€Resolution Color Filter and Photodetector Arrays. Advanced Functional Materials, 2022, 32, .	14.9	21
49	Heating-up synthesis of cesium bismuth bromide perovskite nanocrystals with tailored composition, morphology, and optical properties. RSC Advances, 2020, 10, 7126-7133.	3.6	20
50	Chemical Effect of Halide Ligands on the Electromechanical Properties of Ag Nanocrystal Thin Films for Wearable Sensors. Journal of Physical Chemistry C, 2019, 123, 18087-18094.	3.1	19
51	Suppressing the Dark Current in Quantum Dot Infrared Photodetectors by Controlling Carrier Statistics. Advanced Optical Materials, 2022, 10, 2101611.	7.3	19
52	One-step chemical treatment to design an ideal nanospacer structure for a highly sensitive and transparent pressure sensor. Journal of Materials Chemistry C, 2019, 7, 5059-5066.	5.5	18
53	Investigation of the Chemical Effect of Solvent during Ligand Exchange on Nanocrystal Thin Films for Wearable Sensor Applications. Journal of Physical Chemistry C, 2019, 123, 11001-11010.	3.1	18
54	Superhydrophobic, antireflective, flexible hard coatings with mechanically ultra-resilient moth-eye structure for foldable displays. Current Applied Physics, 2020, 20, 1163-1170.	2.4	18

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55	Controllable doping and passivation of ZnO thin films by surface chemistry modification to design low-cost and high-performance thin film transistors. Applied Surface Science, 2020, 509, 145289.	6.1	18
56	Flexible NiO nanocrystal-based resistive memory device fabricated by low-temperature solution-process. Current Applied Physics, 2020, 20, 288-292.	2.4	17
57	Synthesis, characterization and non-enzymatic lactate sensing performance investigation of mesoporous copper oxide (CuO) using inverse micelle method. Applied Surface Science, 2021, 555, 149638.	6.1	15
58	Highly stretchable white-light electroluminescent devices with gel-type silica-coated all-inorganic perovskite. Applied Surface Science, 2021, 563, 150229.	6.1	15
59	Chemically Engineered Auâ€"Ag Plasmonic Nanostructures to Realize Large Area and Flexible Metamaterials. ACS Applied Materials & Interfaces, 2018, 10, 25652-25659.	8.0	14
60	Janus-like Jagged Structure with Nanocrystals for Self-Sorting Wearable Tactile Sensor. ACS Applied Materials & Interfaces, 2021, 13, 6394-6403.	8.0	14
61	Ligand engineering of mid-infrared Ag2Se colloidal quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 124, 114223.	2.7	14
62	Synergetic effects of ligand exchange and reduction process enhancing both electrical and optical properties of Ag nanocrystals for multifunctional transparent electrodes. Nanoscale, 2018, 10, 18415-18422.	5.6	13
63	Morphological Control of 2D Hybrid Organicâ€"Inorganic Semiconductor AgSePh. ACS Nano, 2022, 16, 2054-2065.	14.6	13
64	Mapping the Competition between Exciton Dissociation and Charge Transport in Organic Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 28743-28749.	8.0	12
65	Mechanical properties and microstructural evolution in Alâ€"Cuâ€"Mgâ€"Ag alloy with a CuxMgx/10 content. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 824, 141573.	5.6	12
66	Sensitivity Dependence of the Planar Hall Effect Sensor on the Free Layer of the Spin-Valve Structure. IEEE Transactions on Magnetics, 2009, 45, 2374-2377.	2.1	11
67	Coupled Ag nanocrystal-based transparent mesh electrodes for transparent and flexible electro-magnetic interference shielding films. Current Applied Physics, 2019, 19, 8-13.	2.4	11
68	Size effect on NiFe/Cu/NiFe/IrMn spinâ€valve structure for an array of PHR sensor element. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 4075-4078.	1.8	9
69	Designing highly conductive and stable silver nanocrystal thin films with tunable work functions through solution-based surface engineering with gold coating process. Journal of Alloys and Compounds, 2017, 698, 400-409.	5.5	9
70	Transition States of Nanocrystal Thin Films during Ligand-Exchange Processes for Potential Applications in Wearable Sensors. ACS Applied Materials & Interfaces, 2018, 10, 25502-25510.	8.0	9
71	Ion-Conducting, Supramolecular Crosslinked Elastomer with a Wide Linear Range of Strain Resistances. ACS Applied Polymer Materials, 2021, 3, 5012-5021.	4.4	9
72	Wearable anti-temperature interference strain sensor with metal nanoparticle thin film and hybrid ligand exchange. Nanoscale, 2022, 14, 8628-8639.	5.6	9

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73	Optical and electrical properties of ZnO nanocrystal thin films passivated by atomic layer deposited Al2O3. Metals and Materials International, 2016, 22, 723-729.	3.4	8
74	Engineering the work function of solution-processed electrodes of silver nanocrystal thin film through surface chemistry modification. APL Materials, 2018, 6, 121105.	5.1	8
75	Control of tunneling gap between nanocrystals by introduction of solution processed interfacial layers for wearable sensor applications. Journal of Industrial and Engineering Chemistry, 2019, 73, 214-220.	5.8	8
76	Ligand Exchange and Impurity Doping in 2D CdSe Nanoplatelet Thin Films and Their Applications. Advanced Electronic Materials, 2022, 8, 2100739.	5.1	7
77	Stable colloidal quantum dot-based infrared photodiode: multiple passivation strategy. Journal of the Korean Ceramic Society, 2021, 58, 521-529.	2.3	6
78	Highâ€Resolution Multicolor Patterning of Metal Halide Perovskite Nanocrystal Thin Films through Rapidâ€Evaporationâ€Assisted Strategy. Advanced Materials Technologies, 2022, 7, .	5.8	6
79	Trioctylphosphine-assisted morphology control of ZnO nanoparticles. Nanotechnology, 2018, 29, 225602.	2.6	5
80	Designing Surface Chemistry of Silver Nanocrystals for Radio Frequency Circuit Applications. ACS Applied Materials & Interfaces, 2018, 10, 37643-37650.	8.0	4
81	Chemical transformation of solution-processed Ag nanocrystal thin films into electrically conductive and catalytically active Pt-based nanostructures. Journal of Industrial and Engineering Chemistry, 2019, 76, 388-395.	5.8	3
82	Investigation of the Role of Cations during Anion Exchange in All-Inorganic Halide Perovskite Nanocrystals. ECS Journal of Solid State Science and Technology, 2021, 10, 106003.	1.8	3
83	Property engineering through nanomaterial chemical transformation of colloidal nanocrystal thin films. Applied Surface Science, 2020, 513, 145721.	6.1	2
84	Cation Effect on Anion Exchange in CsPbX3 (X = Cl, Br, I) Perovskite Nanocrystals. ECS Transactions, 2021, 102, 75-82.	0.5	2
85	Designing a nanocrystal-based temperature and strain multi-sensor with one-step inkjet printing. Journal of Sensor Science and Technology, 2021, 30, 218-222.	0.2	2
86	Effective Deoxidation Process of Titanium Scrap Using MgCl2 Molten Salt Electrolytic. Metals, 2021, 11, 1981.	2.3	2
87	Development of Lowâ€Temperature Doping Process in CdSeâ€Nanocrystal Thin Films for Flexible Electronic and Optoelectronic Devices. Advanced Electronic Materials, 2022, 8, .	5.1	2
88	Neuroprosthetics: Durable and Fatigueâ€Resistant Soft Peripheral Neuroprosthetics for In Vivo Bidirectional Signaling (Adv. Mater. 20/2021). Advanced Materials, 2021, 33, 2170157.	21.0	1
89	Cation Effect on Anion Exchange in CsPbX3 (X = Cl, Br, I) Perovskite Nanocrystals. ECS Meeting Abstracts, 2021, MA2021-01, 910-910.	0.0	0
90	Comparison of physical properties of Ta-Cu-X contact materials with mixing of additives. International Journal of Refractory Metals and Hard Materials, 2021, 101, 105670.	3.8	0

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91	(Invited) Engineering the Structure and Properties of Nanocrystals to Design Electronic Devices and Sensors. ECS Meeting Abstracts, 2020, MA2020-01, 1047-1047.	0.0	0
92	Effect of sample-preparation history on domain and crystal structure in a relaxor-ferroelectric single crystal. Journal of Applied Crystallography, 2020, 53, 381-386.	4.5	0