Jung-Yong Lee

List of Publications by Year
in descending order

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105 papers	8,518 citations	101543 36 h-index	42399 92 g-index
109 all docs	109 docs citations	109 times ranked	11095 citing authors

#	Article	IF	Citations
1	Scalable Coating and Properties of Transparent, Flexible, Silver Nanowire Electrodes. ACS Nano, 2010, 4, 2955-2963.	14.6	1,906
2	Solution-Processed Metal Nanowire Mesh Transparent Electrodes. Nano Letters, 2008, 8, 689-692.	9.1	1,713
3	Wearable Textile Battery Rechargeable by Solar Energy. Nano Letters, 2013, 13, 5753-5761.	9.1	400
4	Fully Solution-Processed Inverted Polymer Solar Cells with Laminated Nanowire Electrodes. ACS Nano, 2010, 4, 30-34.	14.6	269
5	Semitransparent Organic Photovoltaic Cells with Laminated Top Electrode. Nano Letters, 2010, 10, 1276-1279.	9.1	252
6	Au@Ag Coreâ€“Shell Nanocubes for Efficient Plasmonic Light Scattering Effect in Low Bandgap Organic Solar Cells. ACS Nano, 2014, 8, 3302-3312.	14.6	228
7	Plasmonic Forward Scattering Effect in Organic Solar Cells: A Powerful Optical Engineering Method. Scientific Reports, 2013, 3, .	3.3	215
8	Enhancement of optical absorption in thin-film organic solar cells through the excitation of plasmonic modes in metallic gratings. Applied Physics Letters, 2010, 96, .	3.3	214
9	Efficient Welding of Silver Nanowire Networks without Postâ€Processing. Small, 2013, 9, 2887-2894.	10.0	209
10	The origin of enhanced optical absorption in solar cells with metal nanoparticles embedded in the active layer. Optics Express, 2010, 18, 10078.	3.4	172
11	Flexible Transparent Conducting Hybrid Film Using a Surface-Embedded Copper Nanowire Network: A Highly Oxidation-Resistant Copper Nanowire Electrode for Flexible Optoelectronics. ACS Nano, 2014, 8, 10973-10979.	14.6	166
12	The role of photon recycling in perovskite light-emitting diodes. Nature Communications, 2020, 11, 611.	12.8	121
13	Efficient hybrid colloidal quantum dot/organic solar cells mediated by near-infrared sensitizing small molecules. Nature Energy, 2019, 4, 969-976.	39.5	120
14	Flexible transparent conducting composite films using a monolithically embedded AgNW electrode with robust performance stability. Nanoscale, 2014, 6, 711-715.	5.6	95
15	Ag@Ni Coreâ€“Shell Nanowire Network for Robust Transparent Electrodes Against Oxidation and Sulfurization. Small, 2014, 10, 4171-4181.	10.0	89
16	Hybrid crystalline-ITO/metal nanowire mesh transparent electrodes and their application for highly flexible perovskite solar cells. NPG Asia Materials, 2016, 8, e282-e282.	7.9	89
17	Ultrafast formation of air-processable and high-quality polymer films on an aqueous substrate. Nature Communications, 2016, 7, 12374.	12.8	88
18	High-performance hybrid plastic films: a robust electrode platform for thin-film optoelectronics. Energy and Environmental Science, 2013, 6, 1811.	30.8	85

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19	Selfâ€Powered Humidity Sensor Using Chitosanâ€Based Plasmonic Metalâ€“Hydrogelâ€“Metal Filters. Advanced Optical Materials, 2020, 8, 1901932.	7.3	85
20	Coherent light trapping in thin-film photovoltaics. MRS Bulletin, 2011, 36, 453-460.	3.5	84
21	Highly Efficient (>10%) Flexible Organic Solar Cells on PEDOTâ€Free and ITOâ€Free Transparent Electrodes. Advanced Materials, 2019, 31, e1902447.	21.0	77
22	Au@Polymer Coreâ€“Shell Nanoparticles for Simultaneously Enhancing Efficiency and Ambient Stability of Organic Optoelectronic Devices. ACS Applied Materials & Interfaces, 2014, 6, 16956-16965.	8.0	71
23	Random and V-groove texturing for efficient light trapping in organic photovoltaic cells. Solar Energy Materials and Solar Cells, 2013, 115, 36-41.	6.2	70
24	Intrinsically Stretchable Organic Solar Cells with Efficiencies of over 11%. ACS Energy Letters, 2021, 6, 2512-2518.	17.4	69
25	Highly Transparent Au-Coated Ag Nanowire Transparent Electrode with Reduction in Haze. ACS Applied Materials & Interfaces, 2014, 6, 13527-13534.	8.0	66
26	A Flexible and Robust Transparent Conducting Electrode Platform Using an Electroplated Silver Grid/Surface-Embedded Silver Nanowire Hybrid Structure. ACS Applied Materials & Interfaces, 2016, 8, 27035-27043.	8.0	57
27	ITO-free highly bendable and efficient organic solar cells with Ag nanomesh/ZnO hybrid electrodes. Journal of Materials Chemistry A, 2015, 3, 65-70.	10.3	55
28	Artifactâ€Free 2D Mapping of Neural Activity In Vivo through Transparent Gold Nanonetwork Array. Advanced Functional Materials, 2020, 30, 2000896.	14.9	54
29	Mechanical Properties of Polymerâ€“Fullerene Bulk Heterojunction Films: Role of Nanomorphology of Composite Films. Chemistry of Materials, 2017, 29, 3954-3961.	6.7	50
30	Efficient Organic Photovoltaics Utilizing Nanoscale Heterojunctions in Sequentially Deposited Polymer/fullerene Bilayer. Scientific Reports, 2015, 5, 8373.	3.3	49
31	Wearable self-powered pressure sensor by integration of piezo-transmittance microporous elastomer with organic solar cell. Nano Energy, 2020, 74, 104749.	16.0	49
32	Extremely Robust and Patternable Electrodes for Copy-Paper-Based Electronics. ACS Applied Materials & Interfaces, 2016, 8, 19031-19037.	8.0	44
33	Bioinspired Transparent Laminated Composite Film for Flexible Green Optoelectronics. ACS Applied Materials & Interfaces, 2017, 9, 24161-24168.	8.0	42
34	A hydro/oxo-phobic top hole-selective layer for efficient and stable colloidal quantum dot solar cells. Energy and Environmental Science, 2018, 11, 2078-2084.	30.8	41
35	Effects of temperature and coating speed on the morphology of solution-sheared halide perovskite thin-films. Journal of Materials Chemistry A, 2018, 6, 24911-24919.	10.3	40
36	Chemo-Mechanically Operating Palladium-Polymer Nanograting Film for a Self-Powered H₂ Gas Sensor. ACS Nano, 2020, 14, 16813-16822.	14.6	40

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37	Enhancement of growth and lipid production from microalgae using fluorescent paint under the solar radiation. Bioresource Technology, 2014, 173, 193-197.	9.6	39
38	Effects of Backbone Planarity and Tightly Packed Alkyl Chains in the Donorâ€“Acceptor Polymers for High Photostability. Macromolecules, 2016, 49, 7844-7856.	4.8	39
39	Rationally Designed Donorâ€“Acceptor Random Copolymers with Optimized Complementary Light Absorption for Highly Efficient Allâ€Polymer Solar Cells. Advanced Functional Materials, 2017, 27, 1703070.	14.9	37
40	Improved Internal Quantum Efficiency and Light-Extraction Efficiency of Organic Light-Emitting Diodes via Synergistic Doping with Au and Ag Nanoparticles. ACS Applied Materials & Interfaces, 2016, 8, 27911-27919.	8.0	34
41	Nanoimprinting-Induced Nanomorphological Transition in Polymer Solar Cells: Enhanced Electrical and Optical Performance. ACS Nano, 2015, 9, 2773-2782.	14.6	31
42	Enhancing the Internal Quantum Efficiency and Stability of Organic Solar Cells via Metallic Nanofunnels. Advanced Energy Materials, 2015, 5, 1501393.	19.5	29
43	Self-Organization of Polymer Additive, Poly(2-vinylpyridine) via One-Step Solution Processing to Enhance the Efficiency and Stability of Polymer Solar Cells. Advanced Energy Materials, 2017, 7, 1602812.	19.5	29
44	Flexible Transparent Crystalline-ITO/Ag Nanowire Hybrid Electrode with High Stability for Organic Optoelectronics. ACS Applied Materials & Interfaces, 2020, 12, 56462-56469.	8.0	29
45	A Resonanceâ€Shifting Hybrid nâ€Type Layer for Boosting Nearâ€Infrared Response in Highly Efficient Colloidal Quantum Dots Solar Cells. Advanced Materials, 2015, 27, 8102-8108.	21.0	28
46	Self-Supplied Nano-Fusing and Transferring Metal Nanostructures via Surface Oxide Reduction. ACS Applied Materials & Interfaces, 2016, 8, 1112-1119.	8.0	27
47	Broadband energy transfer to sensitizing dyes by mobile quantum dot mediators in solar cells. Scientific Reports, 2013, 3, 2711.	3.3	26
48	Multi-scale and angular analysis of ray-optical light trapping schemes in thin-film solar cells: Micro lens array, V-shaped configuration, and double parabolic trapper. Optics Express, 2013, 21, A276.	3.4	26
49	Highly Efficient Topâ€Illuminated Flexible Polymer Solar Cells with a Nanopatterned 3D Microresonant Cavity. Small, 2014, 10, 1278-1283.	10.0	26
50	Fabrication of high aspect ratio nanogrid transparent electrodes via capillary assembly of Ag nanoparticles. Nanoscale, 2016, 8, 11217-11223.	5.6	26
51	Toward Perfect Light Trapping in Thinâ€Film Photovoltaic Cells: Full Utilization of the Dual Characteristics of Light. Advanced Optical Materials, 2015, 3, 1697-1702.	7.3	25
52	An Electroactive, Tunable, and Frequency Selective Surface Utilizing Highly Stretchable Dielectric Elastomer Actuators Based on Functionally Antagonistic Aperture Control. Small, 2016, 12, 1840-1846.	10.0	25
53	Coupled Nearâ€and Farâ€Field Scattering in Silver Nanoparticles for Highâ€Efficiency, Stable, and Thin Plasmonic Dyeâ€Sensitized Solar Cells. ChemSusChem, 2014, 7, 2461-2468.	6.8	24
54	Self-Powered Gas Sensor Based on a Photovoltaic Cell and a Colorimetric Film with Hierarchical Micro/Nanostructures. ACS Applied Materials & Interfaces, 2020, 12, 39024-39032.	8.0	24

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55	Stable inverted small molecular organic solar cells using a p-doped optical spacer. Nanoscale, 2015, 7, 157-165.	5.6	23
56	Efficient light trapping in inverted polymer solar cells by a randomly nanostructured electrode using monodispersed polymer nanoparticles. Nanoscale, 2013, 5, 1858.	5.6	22
57	Highly Efficient (>9%) Leadâ€Free AgBiS₂ Colloidal Nanocrystal/Organic Hybrid Solar Cells. Advanced Energy Materials, 2022, 12, .	19.5	22
58	Cooptimization of Adhesion and Power Conversion Efficiency of Organic Solar Cells by Controlling Surface Energy of Buffer Layers. ACS Applied Materials & Interfaces, 2017, 9, 37395-37401.	8.0	20
59	Silver Nanowire/Carbon Sheet Composites for Electrochemical Syngas Generation with Tunable H₂/CO Ratios. ACS Omega, 2017, 2, 3441-3446.	3.5	20
60	Infrared Cavity-Enhanced Colloidal Quantum Dot Photovoltaics Employing Asymmetric Multilayer Electrodes. ACS Energy Letters, 2018, 3, 2908-2913.	17.4	20
61	Surface plasmon assisted high performance top-illuminated polymer solar cells with nanostructured Ag rear electrodes. Journal of Materials Chemistry A, 2014, 2, 2915.	10.3	19
62	Multi-bandgap Solar Energy Conversion via Combination of Microalgal Photosynthesis and Spectrally Selective Photovoltaic Cell. Scientific Reports, 2019, 9, 18999.	3.3	19
63	Highly Efficient Vacuum-Evaporated CsPbBr₃ Perovskite Light-Emitting Diodes with an Electrical Conductivity Enhanced Polymer-Assisted Passivation Layer. ACS Applied Materials & Interfaces, 2021, 13, 37323-37330.	8.0	19
64	Title: Using Alignment and 2D Network Simulations to Study Charge Transport Through Doped ZnO Nanowire Thin Film Electrodes. Advanced Functional Materials, 2011, 21, 4691-4697.	14.9	17
65	A Colloidalâ€Quantumâ€Dotâ€Based Selfâ€Charging System via the Nearâ€Infrared Band. Advanced Materials, 2018, 30, e1707224.	21.0	17
66	Development of highly transparent Pd-coated Ag nanowire electrode for display and catalysis applications. Applied Surface Science, 2015, 350, 79-86.	6.1	16
67	Facilitated embedding of silver nanowires into conformally-coated iCVD polymer films deposited on cloth for robust wearable electronics. Nanoscale, 2017, 9, 3399-3407.	5.6	16
68	Fabrication of a Combustion-Reacted High-Performance ZnO Electron Transport Layer with Silver Nanowire Electrodes for Organic Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 7214-7222.	8.0	15
69	Efficient Green Organic Light-Emitting Diodes by Plasmonic Silver Nanoparticles. IEEE Photonics Technology Letters, 2016, 28, 371-374.	2.5	14
70	Flexible Bottom-Gated Organic Field-Effect Transistors Utilizing Stamped Polymer Layers from the Surface of Water. ACS Applied Materials & Interfaces, 2020, 12, 25092-25099.	8.0	14
71	Allâ€inâ€One Process for Color Tuning and Patterning of Perovskite Quantum Dot Lightâ€Emitting Diodes. Advanced Science, 2022, 9, e2200073.	11.2	14
72	Probing polarization modes of Ag nanowires with hot electron detection on Au/TiO2 nanodiodes. Applied Physics Letters, 2013, 102, 123112.	3.3	13

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73	Mediating Colloidal Quantum Dot/Organic Semiconductor Interfaces for Efficient Hybrid Solar Cells. Advanced Energy Materials, 2022, 12, 2102689.	19.5	13
74	Thermal property of transparent silver nanowire films. Semiconductor Science and Technology, 2014, 29, 015002.	2.0	12
75	Ferroelectric nanodot formation from spinâ€coated poly(vinylidene) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 667 Td (fluorideâ€ Applied Polymer Science, 2015, 132, .	2.6	12
76	Columnar-Structured Low-Concentration Donor Molecules in Bulk Heterojunction Organic Solar Cells. ACS Omega, 2018, 3, 929-936.	3.5	12
77	Roughening Conjugated Polymer Surface for Enhancing the Charge Collection Efficiency of Sequentially Deposited Polymer/Fullerene Photovoltaics. Polymers, 2015, 7, 1497-1509.	4.5	11
78	Design of asymmetrically textured structure for efficient light trapping in building-integrated photovoltaics. Organic Electronics, 2015, 26, 61-65.	2.6	11
79	Solutionâ€Processed Aluminum Nanogratings for Wire Grid Polarizers. Advanced Optical Materials, 2018, 6, 1800205.	7.3	9
80	Study of Optical Configurations for Multiple Enhancement of Microalgal Biomass Production. Scientific Reports, 2019, 9, 1723.	3.3	9
81	An Interlocking Fibrillar Polymer Layer for Mechanical Stability of Perovskite Solar Cells. Advanced Materials Interfaces, 2020, 7, 2001425.	3.7	9
82	Bio-Inspired Dielectric Elastomer Actuator with AgNWs Coated on Carbon Black Electrode. Journal of Nanoscience and Nanotechnology, 2014, 14, 7483-7487.	0.9	8
83	Broadband light trapping strategies for quantum-dot photovoltaic cells (>10%) and their issues with the measurement of photovoltaic characteristics. Scientific Reports, 2017, 7, 17393.	3.3	8
84	Enhanced bendability of nanostructured metal electrodes: effect of nanoholes and their arrangement. Nanoscale, 2020, 12, 12898-12908.	5.6	8
85	Enhancing quantum efficiency of parallel-like bulk heterojunction solar cells. Applied Physics Letters, 2013, 103, .	3.3	7
86	Optical study of thin-film photovoltaic cells with apparent optical path length. Journal of Optics (United Kingdom), 2016, 18, 094001.	2.2	7
87	Two-dimensional sheet resistance model for polycrystalline graphene with overlapped grain boundaries. FlatChem, 2018, 7, 19-25.	5.6	7
88	Role of Oxygen in Two-Step Thermal Annealing Processes for Enhancing the Performance of Colloidal Quantum Dot Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 57840-57846.	8.0	7
89	Manufacturing of Compound Parabolic Concentrator Devices Using an Ultra-fine Planing Method for Enhancing Efficiency of a Solar Cell. International Journal of Precision Engineering and Manufacturing - Green Technology, 2021, 8, 1405-1414.	4.9	7
90	Stability enhancement of normal-geometry organic solar cells in a highly damp condition: A study on the effect of top electrodes. Organic Electronics, 2015, 25, 31-36.	2.6	6

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91	Homo-tandem structures to achieve the ideal external quantum efficiency in small molecular organic solar cells. Optics Express, 2018, 26, A697.	3.4	6
92	Influence of the metal phthalocyanine molecular orientation on charge separation at the organic donor/acceptor interface. Journal of Materials Chemistry C, 2021, 9, 2156-2164.	5.5	6
93	Enhanced stretchability of metal/interlayer/metal hybrid electrode. Nanoscale, 2021, 13, 4543-4550.	5.6	6
94	Improved exciton dissociation and charge transport in energetically cascaded trilayer organic solar cells. Current Applied Physics, 2017, 17, 924-930.	2.4	5
95	Self-powered gas sensor using thin-film photovoltaic cell and microstructured colorimetric film. , 2017, , .		3
96	Tunable Resonator: Selfâ€Powered Humidity Sensor Using Chitosanâ€Based Plasmonic Metalâ€“Hydrogelâ€“Metal Filters (Advanced Optical Materials 9/2020). Advanced Optical Materials, 2020, 8, 2070038.	7.3	3
97	Electromechanical enhancement of metal nanoparticle thin film by composite formation with short metal nanowires. Functional Composites and Structures, 2019, 1, 035006.	3.4	2
98	Fully solution-processed organic solar cells on metal foil substrates. Proceedings of SPIE, 2009, , .	0.8	1
99	Transparent and tandem solar cells using solution-processed metal nanowire transparent electrodes. , 2009, , .		1
100	Flexible optical pressure sensor and its application to wearable human motion detecting device. , 2018, , .		1
101	Organic Solar Cells: Enhancing the Internal Quantum Efficiency and Stability of Organic Solar Cells via Metallic Nanofunnels (Adv. Energy Mater. 24/2015). Advanced Energy Materials, 2015, 5, .	19.5	0
102	Light Trapping: Toward Perfect Light Trapping in Thinâ€Film Photovoltaic Cells: Full Utilization of the Dual Characteristics of Light (Advanced Optical Materials 12/2015). Advanced Optical Materials, 2015, 3, 1656-1656.	7.3	0
103	Solar Cells: Rationally Designed Donorâ€“Acceptor Random Copolymers with Optimized Complementary Light Absorption for Highly Efficient Allâ€Polymer Solar Cells (Adv. Funct. Mater. 38/2017). Advanced Functional Materials, 2017, 27, .	14.9	0
104	Self-powered, highly sensitive pressure sensor based on thin-film solar cell and pressure-responsive porous elastomer film. , 2017, , .		0
105	Light Management Toward Efficient Organic Solar Cells. , 2013, , .		0