

# Jung Woo Leem

## List of Publications by Year in descending order

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95  
papers

2,545  
citations

172207

29  
h-index

214527

47  
g-index

96  
all docs

96  
docs citations

96  
times ranked

3607  
citing authors

#	ARTICLE	IF	CITATIONS
1	<b>An Ultrahighâ€Performance Photodetector based on a Perovskiteâ€Transitionâ€Metalâ€Dichalcogenide Hybrid Structure</b>. Advanced Materials, 2016, 28, 7799-7806.	11.1	242
2	Efficiency Enhancement of Organic Solar Cells Using Hydrophobic Antireflective Inverted Mothâ€Eye Nanopatterned PDMS Films. Advanced Energy Materials, 2014, 4, 1301315.	10.2	151
3	Edible unclonable functions. Nature Communications, 2020, 11, 328.	5.8	116
4	Highly Transparent and Flexible Triboelectric Nanogenerators with Subwavelength-Architected Polydimethylsiloxane by a Nanoporous Anodic Aluminum Oxide Template. ACS Applied Materials & Interfaces, 2015, 7, 20520-20529.	4.0	83
5	Broadband and omnidirectional highly-transparent coverglasses coated with biomimetic moth-eye nanopatterned polymer films for solar photovoltaic system applications. Solar Energy Materials and Solar Cells, 2015, 134, 45-53.	3.0	82
6	CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> planar perovskite solar cells with antireflection and self-cleaning function layers. Journal of Materials Chemistry A, 2016, 4, 7573-7579.	5.2	78
7	Enhanced transmittance and hydrophilicity of nanostructured glass substrates with antireflective properties using disordered gold nanopatterns. Optics Express, 2012, 20, 4056.	1.7	72
8	Glancing angle deposited ITO films for efficiency enhancement of a-Si:H/1/4c-Si:H tandem thin film solar cells. Optics Express, 2011, 19, A258.	1.7	69
9	High transparency and triboelectric charge generation properties of nano-patterned PDMS. RSC Advances, 2014, 4, 10216.	1.7	60
10	Exploring the theoretical and experimental optimization of high-performance triboelectric nanogenerators using microarchitected silk cocoon films. Nano Energy, 2020, 74, 104882.	8.2	58
11	Biomimetic parabola-shaped AZO subwavelength grating structures for efficient antireflection of Si-based solar cells. Solar Energy Materials and Solar Cells, 2011, 95, 2221-2227.	3.0	56
12	Biomimetic artificial Si compound eye surface structures with broadband and wide-angle antireflection properties for Si-based optoelectronic applications. Nanoscale, 2013, 5, 10455.	2.8	49
13	Hybrid Energy Cell with Hierarchical Nano/Micro-Architected Polymer Film to Harvest Mechanical, Solar, and Wind Energies Individually/Simultaneously. ACS Applied Materials & Interfaces, 2016, 8, 30165-30175.	4.0	46
14	Wafer-scale highly-transparent and superhydrophilic sapphires for high-performance optics. Optics Express, 2012, 20, 26160.	1.7	45
15	Efficiency improvement of IIIâ€V GaAs solar cells using biomimetic TiO2 subwavelength structures with wide-angle and broadband antireflection properties. Solar Energy Materials and Solar Cells, 2014, 127, 43-49.	3.0	45
16	Broadband wide-angle antireflection enhancement in AZO/Si shell/core subwavelength grating structures with hydrophobic surface for Si-based solar cells. Optics Express, 2011, 19, A1155.	1.7	42
17	Nanostructured encapsulation coverglasses with wide-angle broadband antireflection and self-cleaning properties for IIIâ€V multi-junction solar cell applications. Solar Energy Materials and Solar Cells, 2014, 120, 555-560.	3.0	42
18	Revisiting silk: a lens-free optical physical unclonable function. Nature Communications, 2022, 13, 247.	5.8	41

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19	Antireflective characteristics of disordered GaAs subwavelength structures by thermally dewetted Au nanoparticles. <i>Solar Energy Materials and Solar Cells</i> , 2011, 95, 669-676.	3.0	40
20	Enhanced Photovoltaic Performance of Dye-Sensitized Solar Cells by Efficient Near-Infrared Sunlight Harvesting using Upconverting Y <sub>2</sub> O <sub>3</sub> :Er <sup>3+</sup> /Yb <sup>3+</sup> Phosphor Nanoparticles. <i>Nanoscale Research Letters</i> , 2015, 10, 1030.	3.1	40
21	Enhanced Device Efficiency of Bilayered Inverted Organic Solar Cells Based on Photocurable P3HTs with a Light Harvesting ZnO Nanorod Array. <i>Advanced Energy Materials</i> , 2014, 4, 1301338.	10.2	38
22	Optimum design of InGaP/GaAs dual-junction solar cells with different tunnel diodes. <i>Optical and Quantum Electronics</i> , 2009, 41, 605-612.	1.5	36
23	Broadband antireflective germanium surfaces based on subwavelength structures for photovoltaic cell applications. <i>Optics Express</i> , 2011, 19, 26308.	1.7	35
24	Hierarchical Ag/TiO <sub>2</sub> /Si Forest-Like Nano/Micro-Architectures as Antireflective, Plasmonic Photocatalytic, and Self-Cleaning Coatings. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 1580-1591.	3.2	34
25	Effect of etching parameters on antireflection properties of Si subwavelength grating structures for solar cell applications. <i>Applied Physics B: Lasers and Optics</i> , 2010, 100, 891-896.	1.1	32
26	Tunable distributed Bragg reflectors with wide-angle and broadband high-reflectivity using nanoporous/dense titanium dioxide film stacks for visible wavelength applications. <i>Optics Express</i> , 2014, 22, 18519.	1.7	32
27	Physical properties of electrically conductive Sb-doped SnO <sub>2</sub> transparent electrodes by thermal annealing dependent structural changes for photovoltaic applications. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2011, 176, 1207-1212.	1.7	31
28	Strong Photocurrent Enhancements in Plasmonic Organic Photovoltaics by Biomimetic Nanoarchitectures with Efficient Light Harvesting. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 6706-6715.	4.0	31
29	Artificial inverted compound eye structured polymer films with light-harvesting and self-cleaning functions for encapsulated III-V solar cell applications. <i>RSC Advances</i> , 2015, 5, 60804-60813.	1.7	31
30	Biodegradable silicon nanoneedles for ocular drug delivery. <i>Science Advances</i> , 2022, 8, eabn1772.	4.7	31
31	Multifunctional Microstructured Polymer Films for Boosting Solar Power Generation of Silicon-Based Photovoltaic Modules. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 2349-2358.	4.0	28
32	Six-fold hexagonal symmetric nanostructures with various periodic shapes on GaAs substrates for efficient antireflection and hydrophobic properties. <i>Nanotechnology</i> , 2011, 22, 485304.	1.3	26
33	Indium tin oxide subwavelength nanostructures with surface antireflection and superhydrophilicity for high-efficiency Si-based thin film solar cells. <i>Optics Express</i> , 2012, 20, A431.	1.7	26
34	Antireflective properties of AZO subwavelength gratings patterned by holographic lithography. <i>Applied Physics B: Lasers and Optics</i> , 2010, 99, 695-700.	1.1	25
35	Controllable synthesis of periodic flower-like ZnO nanostructures on Si subwavelength grating structures. <i>Nanotechnology</i> , 2011, 22, 205604.	1.3	25
36	Broadband and wide-angle antireflection subwavelength structures of Si by inductively coupled plasma etching using dewetted nanopatterns of Au thin films as masks. <i>Thin Solid Films</i> , 2011, 519, 3792-3797.	0.8	25

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37	Single-material zinc sulfide bi-layer antireflection coatings for GaAs solar cells. <i>Optics Express</i> , 2013, 21, A821.	1.7	25
38	A multifunctional hierarchical nano/micro-structured silicon surface with omnidirectional antireflection and superhydrophilicity via an anodic aluminum oxide etch mask. <i>RSC Advances</i> , 2016, 6, 3764-3773.	1.7	25
39	Fractal Web Design of a Hemispherical Photodetector Array with Organic Dye-Sensitized Graphene Hybrid Composites. <i>Advanced Materials</i> , 2020, 32, e2004456.	11.1	25
40	Antireflective properties of disordered Si SWSs with hydrophobic surface by thermally dewetted Pt nanomask patterns for Si-based solar cells. <i>Current Applied Physics</i> , 2012, 12, 291-298.	1.1	24
41	Transmittance enhancement of sapphires with antireflective subwavelength grating patterned UV polymer surface structures by soft lithography. <i>Optics Express</i> , 2013, 21, 29298.	1.7	24
42	Structural, optical, and electrical properties of AZO films by tilted angle sputtering method. <i>Thin Solid Films</i> , 2010, 518, 6285-6288.	0.8	22
43	Solar power generation enhancement of dye-sensitized solar cells using hydrophobic and antireflective polymers with nanoholes. <i>RSC Advances</i> , 2015, 5, 61284-61289.	1.7	22
44	Improvement in light harvesting of dye-sensitized solar cells with antireflective and hydrophobic textile PDMS coating by facile soft imprint lithography. <i>Optics Express</i> , 2015, 23, A169.	1.7	22
45	Transgenic and Diet-Enhanced Silk Production for Reinforced Biomaterials: A Metamaterial Perspective. <i>Annual Review of Biomedical Engineering</i> , 2020, 22, 79-102.	5.7	21
46	Broadband and wide-angle distributed Bragg reflectors based on amorphous germanium films by glancing angle deposition. <i>Optics Express</i> , 2012, 20, 20576.	1.7	20
47	Theoretical modeling and optimization of III-V GaInP/GaAs/Ge monolithic triple-junction solar cells. <i>Journal of the Korean Physical Society</i> , 2014, 64, 1561-1565.	0.3	20
48	Enhanced surface plasmon resonance detection using porous ITO-gold hybrid substrates. <i>Applied Physics B: Lasers and Optics</i> , 2012, 107, 803-808.	1.1	19
49	Tunable behavior of reflectance minima in periodic Ge submicron grating structures. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2012, 29, 357.	0.9	17
50	Disordered Heteronanostructures of MoS <sub>2</sub> and TiO <sub>2</sub> for Unclonable Cryptographic Primitives. <i>ACS Applied Nano Materials</i> , 2021, 4, 2076-2085.	2.4	17
51	Cyber-Physical Watermarking with Inkjet Edible Bioprinting. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	17
52	Multifunctional polymers with biomimetic compound architectures via nanoporous AAO films for efficient solar energy harvesting in dye-sensitized solar cells. <i>RSC Advances</i> , 2015, 5, 90103-90110.	1.7	16
53	Edible Matrix Code with Photogenic Silk Proteins. <i>ACS Central Science</i> , 2022, 8, 513-526.	5.3	16
54	Multi-functional antireflective surface-relief structures based on nanoscale porous germanium with graded refractive index profiles. <i>Nanoscale</i> , 2013, 5, 2520.	2.8	15

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55	Broadband highly transparent sapphires with biomimetic antireflective compound submicrometer structures for optical and optoelectronic applications. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2013, 30, 1665.	0.9	15
56	Green-Light-Activated Photoreaction via Genetic Hybridization of Far-Red Fluorescent Protein and Silk. <i>Advanced Science</i> , 2018, 5, 1700863.	5.6	15
57	Scalable and continuous nanomaterial integration with transgenic fibers for enhanced photoluminescence. <i>Materials Horizons</i> , 2017, 4, 281-289.	6.4	14
58	Hierarchical structured polymers for light-absorption enhancement of silicon-based solar power systems. <i>RSC Advances</i> , 2016, 6, 55159-55166.	1.7	13
59	Influence of oblique-angle sputtered transparent conducting oxides on performance of Si-based thin film solar cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2011, 208, 2220-2225.	0.8	12
60	Antireflective gradient-refractive-index material-distributed microstructures with high haze and superhydrophilicity for silicon-based optoelectronic applications. <i>RSC Advances</i> , 2015, 5, 25616-25624.	1.7	11
61	Strong emission of terahertz radiation from nanostructured Ge surfaces. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	11
62	Improved biomolecular detection based on a plasmonic nanoporous gold film fabricated by oblique angle deposition. <i>Optics Express</i> , 2015, 23, 18777.	1.7	10
63	Broadband and wide-angle antireflective characteristics of nanoporous anodic alumina films for silicon-based optoelectronic applications. <i>Applied Physics B: Lasers and Optics</i> , 2015, 118, 439-447.	1.1	9
64	Thermal-tolerant polymers with antireflective and hydrophobic grooved subwavelength grating surfaces for high-performance optics. <i>RSC Advances</i> , 2016, 6, 79755-79762.	1.7	9
65	Plasmonic photocatalyst-like fluorescent proteins for generating reactive oxygen species. <i>Nano Convergence</i> , 2018, 5, 8.	6.3	9
66	Bioinspired Si subwavelength gratings by closely-packed silica nanospheres as etch masks for efficient antireflective surface. <i>Applied Physics B: Lasers and Optics</i> , 2011, 105, 335-342.	1.1	8
67	Biomimetic nano/micro double-textured silicon with outstanding antireflective and super-hydrophilic surfaces for high optical performance. <i>RSC Advances</i> , 2017, 7, 33757-33763.	1.7	8
68	Hydrophobic and antireflective characteristics of thermally oxidized periodic Si surface nanostructures. <i>Applied Physics B: Lasers and Optics</i> , 2012, 107, 409-414.	1.1	7
69	Effects of Thermal Annealing on In Situ Phosphorus-Doped Germanium $n^+/p$ Junction. <i>IEEE Electron Device Letters</i> , 2013, 34, 15-17.	2.2	7
70	Electrochemically synthesized broadband antireflective and hydrophobic GaOOH nanopillars for III-V InGaP/GaAs/Ge triple-junction solar cell applications. <i>Optics Express</i> , 2014, 22, A328.	1.7	7
71	How to avoid a negative shift in reflection-type surface plasmon resonance biosensors with metallic nanostructures. <i>Optics Express</i> , 2014, 22, 4723.	1.7	7
72	Visible light biophotosensors using biliverdin from <i>Antheraea yamamai</i> . <i>Optics Express</i> , 2018, 26, 31817.	1.7	7

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73	Design and fabrication of amorphous germanium thin film-based single-material distributed Bragg reflectors operating near 22 $\mu$ m for long wavelength applications. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 838.	0.9	6
74	Optical performance improvement of semi-transparent metal film electrodes with biomimetic subwavelength gratings for high-performance optoelectronic device applications. RSC Advances, 2015, 5, 84865-84871.	1.7	6
75	Photoelectric Silk via Genetic Encoding and Bioassisted Plasmonics. Advanced Biology, 2020, 4, e2000040.	3.0	6
76	Characteristics of terahertz pulses from antireflective GaAs surfaces with nanopillars. Journal of Applied Physics, 2013, 113, .	1.1	5
77	Nanoporous TiO <sub>2</sub> -Based Distributed Bragg Reflectors for Near-Infrared Wavelength Applications. Journal of Nanoscience and Nanotechnology, 2015, 15, 9650-9655.	0.9	5
78	Effects of point defect healing on phosphorus implanted germanium n+/p junction and its thermal stability. Journal of Applied Physics, 2013, 114, .	1.1	4
79	Highly-reflective and conductive distributed Bragg reflectors based on glancing angle deposited indium tin oxide thin films for silicon optoelectronic applications. Thin Solid Films, 2015, 591, 351-356.	0.8	4
80	Inverted tetrahedron-pyramidal micropatterned polymer films for boosting light output power in flip-chip light-emitting diodes. Optics Express, 2015, 23, 9612.	1.7	4
81	Influence of etching process parameters on the antireflection property of Si SWSs by thermally dewetted Ag and Ag/SiO <sub>2</sub> nanopatterns. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1902-1907.	0.8	3
82	Broadband high-reflective distributed Bragg reflectors based on amorphous silicon films for semiconductor laser facet coatings. Applied Optics, 2015, 54, 1027.	0.9	3
83	Subwavelength antireflection structures and their device applications. , 2010, , .		2
84	Antireflective Hydrophobic Si Subwavelength Structures Using Thermally Dewetted Ni/SiO <sub>2</sub> Nanomask Patterns. Journal of Nanoscience and Nanotechnology, 2011, 11, 10130-10135.	0.9	2
85	Effect of Al-doped ZnO film thickness on periodic GaAs subwavelength grating structures for photovoltaic device applications. Materials Research Bulletin, 2012, 47, 2884-2887.	2.7	2
86	Fabrication and analysis of highly-reflective metal-dielectric mirrors for high-performance semiconductor laser applications. Current Applied Physics, 2016, 16, 155-159.	1.1	2
87	Semiconductor nanostructures towards optoelectronic device applications. Proceedings of SPIE, 2012, , .	0.8	1
88	Revisitation of ZnO random lasers toward optical security. , 2018, , .		1
89	Device characteristics and metal-dielectric high reflectivity coating analysis of InGaAsP/InGaAsP MQW PBH lasers. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 217-223.	0.8	0
90	Zinc oxide nanostructures with metal particles based on surface plasmons for optoelectronic device applications. Proceedings of SPIE, 2011, , .	0.8	0

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91	Bioinspired Periodic Pinecone-Shaped Si Subwavelength Nanostructures for Broadband and Omnidirectional Antireflective Surface. Journal of Nanoscience and Nanotechnology, 2012, 12, 7932-7938.	0.9	0
92	Tailoring of optical properties of porous nanocolumnar structures and their device applications by oblique angle deposition. Proceedings of SPIE, 2013, , .	0.8	0
93	How to avoid a negative shift in reflection-type surface plasmon resonance biosensors with metallic nanostructures: errata. Optics Express, 2014, 22, 7931.	1.7	0
94	Strongly enhanced emission of terahertz radiation from nanostructured Ge surfaces. , 2015, , .		0
95	Lensless and Optical Physically Unclonable Function with Fibrous Media. , 2021, , .		0