

# 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  
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96  
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96  
docs citations

96  
times ranked

3607  
citing authors

#	ARTICLE	IF	CITATIONS
1	Revisiting silk: a lens-free optical physical unclonable function. <i>Nature Communications</i> , 2022, 13, 247.	5.8	41
2	Cyber-Physical Watermarking with Inkjet Edible Bioprinting. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	17
3	Biodegradable silicon nanoneedles for ocular drug delivery. <i>Science Advances</i> , 2022, 8, eabn1772.	4.7	31
4	Edible Matrix Code with Photogenic Silk Proteins. <i>ACS Central Science</i> , 2022, 8, 513-526.	5.3	16
5	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
6	Lensless and Optical Physically Unclonable Function with Fibrous Media. , 2021, , .		0
7	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
8	Exploring the theoretical and experimental optimization of high-performance triboelectric nanogenerators using microarchitected silk cocoon films. <i>Nano Energy</i> , 2020, 74, 104882.	8.2	58
9	Photoelectric Silk via Genetic Encoding and Bioassisted Plasmonics. <i>Advanced Biology</i> , 2020, 4, e2000040.	3.0	6
10	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
11	Edible unclonable functions. <i>Nature Communications</i> , 2020, 11, 328.	5.8	116
12	Green-Light-Activated Photoreaction via Genetic Hybridization of Far-Red Fluorescent Protein and Silk. <i>Advanced Science</i> , 2018, 5, 1700863.	5.6	15
13	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
14	Plasmonic photocatalyst-like fluorescent proteins for generating reactive oxygen species. <i>Nano Convergence</i> , 2018, 5, 8.	6.3	9
15	Revisitation of ZnO random lasers toward optical security. , 2018, , .		1
16	Visible light biophotosensors using biliverdin from <i>Antheraea yamamai</i> . <i>Optics Express</i> , 2018, 26, 31817.	1.7	7
17	Scalable and continuous nanomaterial integration with transgenic fibers for enhanced photoluminescence. <i>Materials Horizons</i> , 2017, 4, 281-289.	6.4	14
18	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

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19	CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> planar perovskite solar cells with antireflection and self-cleaning function layers. <i>Journal of Materials Chemistry A</i> , 2016, 4, 7573-7579.	5.2	78
20	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
21	Hierarchical structured polymers for light-absorption enhancement of silicon-based solar power systems. <i>RSC Advances</i> , 2016, 6, 55159-55166.	1.7	13
22	An Ultrahigh-Performance Photodetector based on a Perovskite-Transition-Metal-Dichalcogenide Hybrid Structure. <i>Advanced Materials</i> , 2016, 28, 7799-7806.	11.1	242
23	Hybrid Energy Cell with Hierarchical Nano/Micro-Architected Polymer Film to Harvest Mechanical, Solar, and Wind Energies Individually/Simultaneously. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 30165-30175.	4.0	46
24	Fabrication and analysis of highly-reflective metal-dielectric mirrors for high-performance semiconductor laser applications. <i>Current Applied Physics</i> , 2016, 16, 155-159.	1.1	2
25	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
26	Nanoporous TiO <sub>2</sub> -Based Distributed Bragg Reflectors for Near-Infrared Wavelength Applications. <i>Journal of Nanoscience and Nanotechnology</i> , 2015, 15, 9650-9655.	0.9	5
27	Strongly enhanced emission of terahertz radiation from nanostructured Ge surfaces. , 2015, , .		0
28	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
29	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
30	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
31	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
32	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
33	Highly-reflective and conductive distributed Bragg reflectors based on glancing angle deposited indium tin oxide thin films for silicon optoelectronic applications. <i>Thin Solid Films</i> , 2015, 591, 351-356.	0.8	4
34	Inverted tetrahedron-pyramidal micropatterned polymer films for boosting light output power in flip-chip light-emitting diodes. <i>Optics Express</i> , 2015, 23, 9612.	1.7	4
35	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
36	Broadband high-reflective distributed Bragg reflectors based on amorphous silicon films for semiconductor laser facet coatings. <i>Applied Optics</i> , 2015, 54, 1027.	0.9	3

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37	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
38	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
39	Highly Transparent and Flexible Triboelectric Nanogenerators with Subwavelength-Architected Polydimethylsiloxane by a Nanoporous Anodic Aluminum Oxide Template. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 20520-20529.	4.0	83
40	Strong emission of terahertz radiation from nanostructured Ge surfaces. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	11
41	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
42	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
43	Optical performance improvement of semi-transparent metal film electrodes with biomimetic subwavelength gratings for high-performance optoelectronic device applications. <i>RSC Advances</i> , 2015, 5, 84865-84871.	1.7	6
44	Broadband and omnidirectional highly-transparent coverglasses coated with biomimetic moth-eye nanopatterned polymer films for solar photovoltaic system applications. <i>Solar Energy Materials and Solar Cells</i> , 2015, 134, 45-53.	3.0	82
45	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
46	How to avoid a negative shift in reflection-type surface plasmon resonance biosensors with metallic nanostructures: errata. <i>Optics Express</i> , 2014, 22, 7931.	1.7	0
47	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
48	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
49	Efficiency Enhancement of Organic Solar Cells Using Hydrophobic Antireflective Inverted Moth-Eye Nanopatterned PDMS Films. <i>Advanced Energy Materials</i> , 2014, 4, 1301315.	10.2	151
50	Nanostructured encapsulation coverglasses with wide-angle broadband antireflection and self-cleaning properties for III-V multi-junction solar cell applications. <i>Solar Energy Materials and Solar Cells</i> , 2014, 120, 555-560.	3.0	42
51	High transparency and triboelectric charge generation properties of nano-patterned PDMS. <i>RSC Advances</i> , 2014, 4, 10216.	1.7	60
52	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
53	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
54	Efficiency improvement of III-V GaAs solar cells using biomimetic TiO <sub>2</sub> subwavelength structures with wide-angle and broadband antireflection properties. <i>Solar Energy Materials and Solar Cells</i> , 2014, 127, 43-49.	3.0	45

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55	Biomimetic artificial Si compound eye surface structures with broadband and wide-angle antireflection properties for Si-based optoelectronic applications. <i>Nanoscale</i> , 2013, 5, 10455.	2.8	49
56	Effects of point defect healing on phosphorus implanted germanium n+/p junction and its thermal stability. <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	4
57	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
58	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
59	Design and fabrication of amorphous germanium thin film-based single-material distributed Bragg reflectors operating near $2.2\mu\text{m}$ for long wavelength applications. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2013, 30, 838.	0.9	6
60	Single-material zinc sulfide bi-layer antireflection coatings for GaAs solar cells. <i>Optics Express</i> , 2013, 21, A821.	1.7	25
61	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
62	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
63	Characteristics of terahertz pulses from antireflective GaAs surfaces with nanopillars. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	5
64	Tailoring of optical properties of porous nanocolumnar structures and their device applications by oblique angle deposition. <i>Proceedings of SPIE</i> , 2013, , .	0.8	0
65	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
66	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
67	Wafer-scale highly-transparent and superhydrophilic sapphires for high-performance optics. <i>Optics Express</i> , 2012, 20, 26160.	1.7	45
68	Enhanced transmittance and hydrophilicity of nanostructured glass substrates with antireflective properties using disordered gold nanopatterns. <i>Optics Express</i> , 2012, 20, 4056.	1.7	72
69	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
70	Bioinspired Periodic Pinecone-Shaped Si Subwavelength Nanostructures for Broadband and Omnidirectional Antireflective Surface. <i>Journal of Nanoscience and Nanotechnology</i> , 2012, 12, 7932-7938.	0.9	0
71	Semiconductor nanostructures towards optoelectronic device applications. <i>Proceedings of SPIE</i> , 2012, , .	0.8	1
72	Effect of Al-doped ZnO film thickness on periodic GaAs subwavelength grating structures for photovoltaic device applications. <i>Materials Research Bulletin</i> , 2012, 47, 2884-2887.	2.7	2

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73	Hydrophobic and antireflective characteristics of thermally oxidized periodic Si surface nanostructures. Applied Physics B: Lasers and Optics, 2012, 107, 409-414.	1.1	7
74	Enhanced surface plasmon resonance detection using porous ITO-gold hybrid substrates. Applied Physics B: Lasers and Optics, 2012, 107, 803-808.	1.1	19
75	Antireflective properties of disordered Si SWSs with hydrophobic surface by thermally dewetted Pt nanomask patterns for Si-based solar cells. Current Applied Physics, 2012, 12, 291-298.	1.1	24
76	Zinc oxide nanostructures with metal particles based on surface plasmons for optoelectronic device applications. Proceedings of SPIE, 2011, , .	0.8	0
77	Controllable synthesis of periodic flower-like ZnO nanostructures on Si subwavelength grating structures. Nanotechnology, 2011, 22, 205604.	1.3	25
78	Six-fold hexagonal symmetric nanostructures with various periodic shapes on GaAs substrates for efficient antireflection and hydrophobic properties. Nanotechnology, 2011, 22, 485304.	1.3	26
79	Glancing angle deposited ITO films for efficiency enhancement of a-Si:H/ $\frac{1}{4}$ c-Si:H tandem thin film solar cells. Optics Express, 2011, 19, A258.	1.7	69
80	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
81	Broadband antireflective germanium surfaces based on subwavelength structures for photovoltaic cell applications. Optics Express, 2011, 19, 26308.	1.7	35
82	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
83	Physical properties of electrically conductive Sb-doped SnO <sub>2</sub> transparent electrodes by thermal annealing dependent structural changes for photovoltaic applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2011, 176, 1207-1212.	1.7	31
84	Bioinspired Si subwavelength gratings by closely-packed silica nanospheres as etch masks for efficient antireflective surface. Applied Physics B: Lasers and Optics, 2011, 105, 335-342.	1.1	8
85	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
86	Influence of oblique-angle sputtered transparent conducting oxides on performance of Si-based thin film solar cells. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 2220-2225.	0.8	12
87	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
88	Antireflective characteristics of disordered GaAs subwavelength structures by thermally dewetted Au nanoparticles. Solar Energy Materials and Solar Cells, 2011, 95, 669-676.	3.0	40
89	Broadband and wide-angle antireflection subwavelength structures of Si by inductively coupled plasma etching using dewetted nanopatterns of Au thin films as masks. Thin Solid Films, 2011, 519, 3792-3797.	0.8	25
90	Antireflective properties of AZO subwavelength gratings patterned by holographic lithography. Applied Physics B: Lasers and Optics, 2010, 99, 695-700.	1.1	25

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91	Effect of etching parameters on antireflection properties of Si subwavelength grating structures for solar cell applications. Applied Physics B: Lasers and Optics, 2010, 100, 891-896.	1.1	32
92	Structural, optical, and electrical properties of AZO films by tilted angle sputtering method. Thin Solid Films, 2010, 518, 6285-6288.	0.8	22
93	Device characteristics and metal-dielectric high reflectivity coating analysis of $\lambda/4$ 1.3 $\mu\text{m}$ InGaAsP/InGaAsP MQW PBH lasers. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 217-223.	0.8	0
94	Subwavelength antireflection structures and their device applications. , 2010, , .		2
95	Optimum design of InGaP/GaAs dual-junction solar cells with different tunnel diodes. Optical and Quantum Electronics, 2009, 41, 605-612.	1.5	36