Rana Biswas

List of Publications by Year in descending order

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65 papers	1,207 citations	471509 17 h-index	377865 34 g-index
67 all docs	67 docs citations	67 times ranked	1564 citing authors

#	Article	IF	Citations
1	Photonic crystal enhanced light-trapping in thin film solar cells. Journal of Applied Physics, 2008, 103, .	2.5	305
2	A photonic-plasmonic structure for enhancing light absorption in thin film solar cells. Applied Physics Letters, 2011, 99, .	3.3	102
3	Photonic crystal based back reflectors for light management and enhanced absorption in amorphous silicon solar cells. Applied Physics Letters, 2009, 95, .	3.3	83
4	Light management in perovskite solar cells and organic LEDs with microlens arrays. Optics Express, 2017, 25, 10704.	3.4	72
5	Nano-crystalline silicon solar cell architecture with absorption at the classical 4n^2 limit. Optics Express, 2011, 19, A664.	3.4	62
6	Nano-Photonic Structures for Light Trapping in Ultra-Thin Crystalline Silicon Solar Cells. Nanomaterials, 2017, 7, 17.	4.1	46
7	Nanophotonic Organic Solar Cell Architecture for Advanced Light Trapping with Dual Photonic Crystals. ACS Photonics, 2014, 1, 840-847.	6.6	39
8	Ab Initio Simulation of Charge Transfer at the Semiconductor Quantum Dot/TiO₂ Interface in Quantum Dotâ€Sensitized Solar Cells. Particle and Particle Systems Characterization, 2015, 32, 80-90.	2.3	33
9	Tunable Near UV Microcavity OLED Arrays: Characterization and Analytical Applications. Advanced Functional Materials, 2015, 25, 1226-1232.	14.9	32
10	Enhanced Light Extraction from OLEDs Fabricated on Patterned Plastic Substrates. Advanced Optical Materials, 2018, 6, 1701244.	7.3	31
11	Reducing optical losses in organic solar cells using microlens arrays: theoretical and experimental investigation of microlens dimensions. Physical Chemistry Chemical Physics, 2015, 17, 3723-3730.	2.8	25
12	Add-drop filters in three-dimensional layer-by-layer photonic crystals using waveguides and resonant cavities. Applied Physics Letters, 2006, 89, 231103.	3.3	23
13	Replica molding-based nanopatterning of tribocharge on elastomer with application to electrohydrodynamic nanolithography. Nature Communications, 2018, 9, 974.	12.8	23
14	MoO3 as combined hole injection layer and tapered spacer in combinatorial multicolor microcavity organic light emitting diodes. Applied Physics Letters, 2011, 99, .	3.3	22
15	Simulation and modelling of photonic and plasmonic crystal back reflectors for efficient light trapping. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 667-670.	1.8	21
16	Atomic Pathways Underlying Light-Induced Changes in Organic Solar Cell Materials. Journal of Physical Chemistry C, 2015, 119, 20265-20271.	3.1	21
17	Visible Frequency Thin Film Photonic Crystals from Colloidal Systems of Nanocrystalline Titania and Polystyrene Microspheres. Journal of the American Ceramic Society, 2002, 85, 1383-1386.	3.8	20
18	Extraordinary optical transmission in nanopatterned ultrathin metal films without holes. Nanoscale, 2016, 8, 4657-4666.	5.6	20

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19	Photoluminescence Enhancement of CuInS 2 Quantum Dots in Solution Coupled to Plasmonic Gold Nanocup Array. Small, 2017, 13, 1700660.	10.0	17
20	Antioxidant and anti-inflammatory activity of Heritiera fomes (Buch.-Ham), a mangrove plant of the Sundarbans. Advances in Traditional Medicine, 2020, 20, 189-197.	2.0	17
21	Simulation of hydrogen evolution from nano-crystalline silicon. Journal of Non-Crystalline Solids, 2004, 333, 44-47.	3.1	16
22	Blue photon management by inhouse grown ZnO:Al cathode for enhanced photostability in polymer solar cells. Solar Energy Materials and Solar Cells, 2018, 179, 95-101.	6.2	16
23	Nanoscale patterning of biopolymers for functional biosurfaces and controlled drug release. Nanoscale, 2016, 8, 18654-18664.	5.6	15
24	High Light Outcoupling Efficiency from Periodically Corrugated OLEDs. ACS Omega, 2021, 6, 9291-9301.	3.5	15
25	Enhancing Light-trapping and Efficiency of Solar Cells with Photonic Crystals. Materials Research Society Symposia Proceedings, 2007, 989, 2.	0.1	14
26	Nanoscale Modulation of Friction and Triboelectrification via Surface Nanotexturing. Nano Letters, 2019, 19, 850-856.	9.1	11
27	Nano-photonic light trapping near the Lambertian limit in organic solar cell architectures. Optics Express, 2013, 21, A841.	3.4	10
28	Spatial-temporal spectroscopy characterizations and electronic structure of methylammonium perovskites. MRS Communications, 2018, 8, 961-969.	1.8	10
29	Photonic and plasmonic crystal based enhancement of solar cells â€" Theory of overcoming the Lambertian limit. Journal of Non-Crystalline Solids, 2012, 358, 2289-2294.	3.1	9
30	Unusual infrared absorption increases in photo-degraded organic films. Nanoscale, 2017, 9, 8665-8673.	5.6	8
31	Waveguide circuits in three-dimensional photonic crystals. Photonics and Nanostructures - Fundamentals and Applications, 2008, 6, 134-141.	2.0	7
32	Enhancement of solar cells with photonic and plasmonic crystals - overcoming the Lambertian limit. Journal of Materials Research, 2013, 28, 1021-1030.	2.6	7
33	A framework for glass-box physics rule learner and its application to nano-scale phenomena. Communications Physics, 2020, 3, .	5.3	6
34	Comparison of optical properties of periodic photonicâ€"plasmonic and randomly textured back reflectors for nc-Si solar cells. Journal of Non-Crystalline Solids, 2012, 358, 2313-2318.	3.1	5
35	Stability and temporal decay of nanopatterned tribocharge on nanotextured elastomer surfaces. Nano Energy, 2021, 79, 105441.	16.0	5
36	Utilizing Wide Band Gap, High Dielectric Constant Nanoparticles as Additives in Organic Solar Cells. Journal of Physical Chemistry C, 2015, 119, 23883-23889.	3.1	4

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37	Defects in SiC for Quantum Computing. MRS Advances, 2019, 4, 2217-2222.	0.9	4
38	Antioxidant and antibacterial activity of three herbs belonging to Zingiber genus of Bangladesh. Advances in Traditional Medicine, 2020, 20, 343-350.	2.0	4
39	Simulation of enhanced light extraction from periodic, disordered, and quasi-periodic OLED structures. Journal of the Optical Society of America B: Optical Physics, 2021, 38, C144.	2.1	4
40	Concordance of antioxidant and anti-Inflammatory activity in Xylocarpus granatum (Koen). Journal of the Bangladesh Agricultural University, 2019, 17, 466-475.	0.1	3
41	Antioxidant, Anti-inflammatory, and Anticoagulation Properties of Aegiceras corniculatum and Acanthus ilicifolius. Pharmaceutical and Biomedical Research, 0, , .	0.2	3
42	Mechano-Triboelectric Analysis of Surface Charge Generation on Replica-Molded Elastomeric Nanodomes. Micromachines, 2021, 12, 1460.	2.9	3
43	Fabrication of Photonic Crystal based Back Reflectors for Light Management and Enhanced Absorption in Amorphous Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2009, 1153, 1.	0.1	2
44	High Temperature Plasmonic Photonic Crystal MEMS Emitter. Materials Research Society Symposia Proceedings, 2009, 1162, 1.	0.1	2
45	Nano-photonic organic solar cell architecture for advanced light management utilizing dual photonic crystals. Proceedings of SPIE, 2015, , .	0.8	2
46	Investigation of Antibacterial, Cytotoxic and Antioxidant Properties of the Mangrove Plant <i>Xylocarpus mekongensis</i>. Advances in Bioscience and Biotechnology (Print), 2016, 07, 205-213.	0.7	2
47	Simulation of Realistic Core-shell Silicon Nanowires. Materials Research Society Symposia Proceedings, 2006, 910, 4.	0.1	1
48	Improved Photon Absorption in a-Si:H Solar Cells using Photonic Crystal Architectures. Materials Research Society Symposia Proceedings, 2008, 1066, 1.	0.1	1
49	Harvesting Photons in Thin Film Solar Cells with Photonic Crystals. Materials Research Society Symposia Proceedings, 2008, 1101, 1.	0.1	1
50	Light-trapping in Thin Film Silicon Solar Cells with a Combination of Periodic and Randomly Textured Back-reflectors. Materials Research Society Symposia Proceedings, 2012, 1426, 117-123.	0.1	1
51	Infrared emission of a freestanding plasmonic membrane. Applied Physics Letters, 2018, 112, .	3.3	1
52	Quantum size effects and tunable visible photoluminescence in a-Si:H/nc-Si:H superlattices. Journal of Materials Science: Materials in Electronics, 2019, 30, 4696-4704.	2.2	1
53	Simulations of Sub-wavelength Metallo-dielectric Photonic Crystals for Gas Sensing. Materials Research Society Symposia Proceedings, 2006, 952, 2.	0.1	0
54	Theory of Thermal Emissivity and Enhanced Absorption in Sub-wavelength Metallo-Dielectric Photonic Crystals. Materials Research Society Symposia Proceedings, 2007, 1014, 1.	0.1	0

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55	Enhanced photon harvesting in a-Si:H solar cells with photonic crystals. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	0
56	Sharp Absorption and High Temperature Thermal Emission from Simple Metallic Photonic Crystals. Materials Research Society Symposia Proceedings, 2009, 1162, 1.	0.1	0
57	Enhanced Absorption in Amorphous Silicon Solar Cells Using Plasmonic and Photonic Crystals â€“ Measurement and Simulation. Materials Research Society Symposia Proceedings, 2010, 1248, 503.	0.1	0
58	Photonic Crystal Back Reflectors for Enhanced Absorption in Amorphous Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	0
59	Photonic and plasmonic crystal based enhancement of solar cells- overcoming the Lambertian classical 4n2 limit. Materials Research Society Symposia Proceedings, 2012, 1426, 137-147.	0.1	0
60	Utilizing microsphere-based enhanced-intensity laser ablation for nanopatterning polymers. , 2017, , .		0
61	Plasmonic Enhancement: Photoluminescence Enhancement of CuInS₂ Quantum Dots in Solution Coupled to Plasmonic Gold Nanocup Array (Small 33/2017). Small, 2017, 13, .	10.0	0
62	Bioactivity analysis of Sarcolobus globosus Wall., a mangrove plant of the Sundarbans. Journal of the Bangladesh Agricultural University, 2019, 17, 476-482.	0.1	0
63	(Invited) Novel Optical Phenomena in Nanoplasmonic Arrays. ECS Meeting Abstracts, 2020, MA2020-01, 1082-1082.	0.0	0
64	Assessment of Antioxidant, Antibacterial, and Preliminary Cytotoxic Properties of Brownlowia Tersa. Journal of Herbs, Spices and Medicinal Plants, 0, , 1-14.	1.1	0
65	(Invited) Enhancement of Light Emission in Luminescent Structures within Nano-Arrays. ECS Meeting Abstracts, 2022, MA2022-01, 1087-1087.	0.0	0