Swee Ching Sc Tan

List of Publications by Year in Descending Order

96 papers	2,554 citations	30 h-index	47 g-index
105 ext. papers	3,476 ext. citations	13.8 avg, IF	5.91 L-index

#	Paper	IF	Citations
96	Reversible Hydration Composite Films for Evaporative Perspiration Control and Heat Stress Management.. *Small*, **2022**, e2107636	11	4
95	An asymmetric hygroscopic structure for moisture-driven hygro-ionic electricity generation and storage.. *Advanced Materials*, **2022**, e2201228	24	10
94	High-flux flowing interfacial water evaporation under multiple heating sources enabled by a biohybrid hydrogel. *Nano Energy*, **2022**, 98, 107287	17.1	5
93	Augmenting Sensor Performance with Machine Learning Towards Smart Wearable Sensing Electronic Systems. *Advanced Intelligent Systems*, **2022**, 4, 2270016	6	
92	Solar-Driven Gas-Phase Moisture to Hydrogen with Zero Bias. *ACS Nano*, **2021**,	16.7	5
91	Liquid-Exfoliated 2D Materials for Optoelectronic Applications. *Advanced Science*, **2021**, 8, e2003864	13.6	23
90	1200% enhancement of solar energy conversion by engineering three dimensional arrays of flexible biophotoelectrochemical cells in a fixed footprint encompassed by Johnson solid shaped optical well. *Nano Energy*, **2021**, 79, 105424	17.1	3
89	Robust, 3D-printed hydratable plastics for effective solar desalination. *Nano Energy*, **2021**, 79, 105436	17.1	18
88	Redox flow desalination based on the temperature difference as a driving force. *Chemical Engineering Journal*, **2021**, 416, 127716	14.7	9
87	Reply to the □comment on □nergy harvesting from shadow-effect□by A. K. Das, V. K. Sahu, R. S. Ajimshaa and P. Misra, Energy Environ. Sci., 2021, 10.1039/D0EE03214J. *Energy and Environmental Science*, **2021**, 14, 4130-4131	35.4	
86	Shadow enhanced self-charging power system for wave and solar energy harvesting from the ocean. *Nature Communications*, **2021**, 12, 616	17.4	23
85	Machine-Learning-Assisted Autonomous Humidity Management System Based on Solar-Regenerated Super Hygroscopic Complex. *Advanced Science*, **2021**, 8, 2003939	13.6	14
84	Emerging Technologies for Green Energy Conversion and Storage. *Advanced Sustainable Systems*, **2021**, 5, 2000152	5.9	7
83	Near-Instantaneously Self-Healing Coating toward Stable and Durable Electromagnetic Interference Shielding. *Nano-Micro Letters*, **2021**, 13, 190	19.5	7
82	A bio-inspired nanocomposite membrane with improved light-trapping and salt-rejecting performance for solar-driven interfacial evaporation applications. *Nano Energy*, **2021**, 89, 106443	17.1	14
81	Engineering the photoresponse of liquid-exfoliated 2D materials by size selection and controlled mixing for an ultrasensitive and ultraresponsive photodetector. *Materials Horizons*, **2020**, 7, 3325-3338	14.4	16
80	Digestion of Ambient Humidity for Energy Generation. *Joule*, **2020**, 4, 2532-2536	27.8	36

79	Sustainable Fuel Production from Ambient Moisture via Ferroelectrically Driven MoS Nanosheets. *Advanced Materials*, **2020**, 32, e2000971	24	24
78	Zinc-Air Battery-Based Desalination Device. *ACS Applied Materials & Interfaces*, **2020**, 12, 25728-25735	9.5	13
77	Organic ionic conductors infused aqueous inverse-melting electrolyte aiding crack recovery in flexible supercapacitors functional down to□80□C. *Materials Today Energy*, **2020**, 17, 100428	7	9
76	Super-hygroscopic film for wearables with dual functions of expediting sweat evaporation and energy harvesting. *Nano Energy*, **2020**, 75, 104873	17.1	20
75	Ultrafast Exfoliation of 2D Materials by Solvent Activation and One-Step Fabrication of All-2D-Material Photodetectors by Electrohydrodynamic Printing. *ACS Applied Materials & Interfaces*, **2020**, 12, 28840-28851	9.5	24
74	Sustainable Fuel Production: Sustainable Fuel Production from Ambient Moisture via Ferroelectrically Driven MoS2 Nanosheets (Adv. Mater. 25/2020). *Advanced Materials*, **2020**, 32, 2070188	24	1
73	Hydro-Assisted Self-Regenerating Brominated N-Alkylated Thiophene Diketopyrrolopyrrole Dye Nanofibers-A Sustainable Synthesis Route for Renewable Air Filter Materials. *Small*, **2020**, 16, e1906319	11	7
72	Structure Architecting for Salt-Rejecting Solar Interfacial Desalination to Achieve High-Performance Evaporation With In Situ Energy Generation. *Advanced Science*, **2020**, 7, 1903478	13.6	111
71	Contribution in Light Harvesting by Solid Ionic Conductors for Efficient Photoelectrochemical Cells: An Effect of an Identical Donor Molecule in Sensitizers and Electrolytes. *ACS Applied Energy Materials*, **2020**, 3, 7073-7082	6.1	10
70	Self-powered all weather sensory systems powered by Rhodobacter sphaeroides protein solar cells. *Biosensors and Bioelectronics*, **2020**, 165, 112423	11.8	13
69	Highly efficient photoelectrochemical water oxidation enabled by enhanced interfacial interaction in 2D/1D In2S3@Bi2S3 heterostructures. *Journal of Materials Chemistry A*, **2020**, 8, 5612-5621	13	20
68	Ultrathin Two-Dimensional Membranes Assembled by Ionic Covalent Organic Nanosheets with Reduced Apertures for Gas Separation. *Journal of the American Chemical Society*, **2020**, 142, 4472-4480	16.4	152
67	Performance Improvement by Ozone Treatment of 2D PdSe. *ACS Nano*, **2020**, 14, 5668-5677	16.7	33
66	Energy harvesting from shadow-effect. *Energy and Environmental Science*, **2020**, 13, 2404-2413	35.4	16
65	Photoproteins Tapping Solar Energy to Power Sensors. *Green Energy and Technology*, **2020**, 127-140	0.6	
64	Prolonged Charge Trapping in Photoproteins and Its Implications for Bio-Photocapacitors. *Green Energy and Technology*, **2020**, 111-125	0.6	
63	Augmenting Photocurrent Using Photoproteins of Complementary Optical Characteristics. *Green Energy and Technology*, **2020**, 27-40	0.6	
62	Bio-Schottky Semi-Artificial Photosynthetic Devices. *Green Energy and Technology*, **2020**, 141-156	0.6	

61	Interfacing Photoproteins with Mechanoresponsive Electrolytes for Enhancing Photocurrent and Stability. *Green Energy and Technology*, **2020**, 41-64	0.6	
60	Role of Band-Structure Approach in Biohybrid PhotovoltaicsA Path Beyond Bioelectrochemistry. *Green Energy and Technology*, **2020**, 79-110	0.6	
59	Integrating the Light Reactions of a Photoprotein and a Semiconductor for Enhanced Photovoltage. *Green Energy and Technology*, **2020**, 65-77	0.6	1
58	A solar cell that breathes in moisture for energy generation. *Nano Energy*, **2020**, 68, 104263	17.1	20
57	A 3D-printing method of fabrication for metals, ceramics, and multi-materials using a universal self-curable technique for robocasting. *Materials Horizons*, **2020**, 7, 1083-1090	14.4	30
56	Introducing Normalized Centrifugation for a More Accurate Thermodynamic Analysis of Molybdenum Disulfide Dispersions: A Study on Mixed Solvents of Alcohols and Amines with Water. *ACS Applied Materials & Interfaces*, **2020**, 12, 3096-3103	9.5	9
55	Bio-photocapacitive tactile sensors as a touch-to-audio braille reader and solar capacitor. *Materials Horizons*, **2020**, 7, 866-876	14.4	25
54	Energy Harvesting from Atmospheric Humidity by a Hydrogel-Integrated Ferroelectric-Semiconductor System. *Joule*, **2020**, 4, 176-188	27.8	52
53	Guaranteeing Complete Salt Rejection by Channeling Saline Water through Fluidic Photothermal Structure toward Synergistic Zero Energy Clean Water Production and In Situ Energy Generation. *ACS Energy Letters*, **2020**, 5, 3397-3404	20.1	50
52	Water Harvesting: A Moisture-Hungry Copper Complex Harvesting Air Moisture for Potable Water and Autonomous Urban Agriculture (Adv. Mater. 39/2020). *Advanced Materials*, **2020**, 32, 2070297	24	5
51	Carbon Nanotube Reinforced Strong Carbon Matrix Composites. *ACS Nano*, **2020**, 14, 9282-9319	16.7	45
50	A Moisture-Hungry Copper Complex Harvesting Air Moisture for Potable Water and Autonomous Urban Agriculture. *Advanced Materials*, **2020**, 32, e2002936	24	39
49	Manipulating unidirectional fluid transportation to drive sustainable solar water extraction and brine-drenching induced energy generation. *Energy and Environmental Science*, **2020**, 13, 4891-4902	35.4	66
48	Portable Trilayer Photothermal Structure for Hybrid Energy Harvesting and Synergic Water Purification. *ACS Applied Materials & Interfaces*, **2019**, 11, 38674-38682	9.5	25
47	High-Performance UV Enhancer Molecules Coupled with Photosynthetic Proteins for Ultra-Low-Intensity UV Detection. *CheM*, **2019**, 5, 1847-1860	16.2	21
46	Systematic Study of the Effects of System Geometry and Ambient Conditions on Solar Steam Generation for Evaporation Optimization. *Advanced Sustainable Systems*, **2019**, 3, 1900044	5.9	30
45	Efficient power generating devices utilizing low intensity indoor lights via non-radiative energy transfer mechanism from organic ionic redox couples. *Nano Energy*, **2019**, 60, 457-466	17.1	35
44	Biodegradable Protein-Based Photoelectrochemical Cells with Biopolymer Composite Electrodes That Enable Recovery of Valuable Metals. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 8834-8841	8.3	19

43	Food-derived carbonaceous materials for solar desalination and thermo-electric power generation. *Nano Energy*, **2019**, 65, 104006	17.1	75
42	Optical Shading Induces an In-Plane Potential Gradient in a Semiartificial Photosynthetic System Bringing Photoelectric Synergy. *Advanced Energy Materials*, **2019**, 9, 1901449	21.8	18
41	A Hybrid Artificial Photocatalysis System Splits Atmospheric Water for Simultaneous Dehumidification and Power Generation. *Advanced Materials*, **2019**, 31, e1902963	24	35
40	Photosynthetic apparatus of Rhodobacter sphaeroides exhibits prolonged charge storage. *Nature Communications*, **2019**, 10, 902	17.4	31
39	Solar Energy Triggered Clean Water Harvesting from Humid Air Existing above Sea Surface Enabled by a Hydrogel with Ultrahigh Hygroscopicity. *Advanced Materials*, **2019**, 31, e1806730	24	104
38	Dual functional hetero-anthracene based single component organic ionic conductors as redox mediator cum light harvester for solid state photoelectrochemical cells. *Journal of Materials Chemistry A*, **2018**, 6, 4868-4877	13	33
37	Optical manipulation of work function contrasts on metal thin films. *Science Advances*, **2018**, 4, eaao6050	14.3	26
36	Emerging Role of the Band-Structure Approach in Biohybrid Photovoltaics: A Path Beyond Bioelectrochemistry. *Advanced Functional Materials*, **2018**, 28, 1705305	15.6	39
35	A Mechanoresponsive Phase-Changing Electrolyte Enables Fabrication of High-Output Solid-State Photobioelectrochemical Devices from Pigment-Protein Multilayers. *Advanced Materials*, **2018**, 30, 1704073	24	32
34	Biohybrid Photoprotein-Semiconductor Cells with Deep-Lying Redox Shuttles Achieve a 0.7 V Photovoltage. *Advanced Functional Materials*, **2018**, 28, 1703689	15.6	33
33	A Barbeque-Analog Route to Carbonize Moldy Bread for Efficient Steam Generation. *IScience*, **2018**, 3, 31-39	6.1	39
32	Photosynthetic Bioelectronic Sensors for Touch Perception, UV-Detection, and Nanopower Generation: Toward Self-Powered E-Skins. *Advanced Materials*, **2018**, 30, e1802290	24	51
31	A Smart Flexible Solid State Photovoltaic Device with Interfacial Cooling Recovery Feature through Thermoreversible Polymer Gel Electrolyte. *Small*, **2018**, 14, e1800842	11	32
30	Bio-photoelectrochemical Cells **2018**, 141-159		4
29	Low toxicity environmentally friendly single component aqueous organic ionic conductors for high efficiency photoelectrochemical solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 1009-1016	13	24
28	A super hygroscopic hydrogel for harnessing ambient humidity for energy conservation and harvesting. *Energy and Environmental Science*, **2018**, 11, 2179-2187	35.4	84
27	Transparent Nanofibrous Mesh Self-Assembled from Molecular LEGOs for High Efficiency Air Filtration with New Functionalities. *Small*, **2017**, 13, 1601924	11	24
26	Tandem Solar Cells: Enhanced Output from Biohybrid Photoelectrochemical Transparent Tandem Cells Integrating Photosynthetic Proteins Genetically Modified for Expanded Solar Energy Harvesting (Adv. Energy Mater. 7/2017). *Advanced Energy Materials*, **2017**, 7,	21.8	1

25	Enhanced Output from Biohybrid Photoelectrochemical Transparent Tandem Cells Integrating Photosynthetic Proteins Genetically Modified for Expanded Solar Energy Harvesting. *Advanced Energy Materials*, **2017**, 7, 1601821	21.8	30
24	Inkjet-Printable Hydrochromic Paper for Encrypting Information and Anticounterfeiting. *ACS Applied Materials & Interfaces*, **2017**, 9, 33071-33079	9.5	59
23	Fabrication of high aspect ratio AFM probes with different materials inspired by TEM lift-out method. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2016**, 34, 051805	1.3	4
22	Progress and perspectives in exploiting photosynthetic biomolecules for solar energy harnessing. *Energy and Environmental Science*, **2015**, 8, 2551-2573	35.4	85
21	Crystalline silicon core fibres from aluminium core preforms. *Nature Communications*, **2015**, 6, 6248	17.4	53
20	Impact of Water-Assisted Electrochemical Reactions on the OFF-State Degradation of AlGaN/GaN HEMTs. *IEEE Transactions on Electron Devices*, **2014**, 61, 437-444	2.9	47
19	Superhydrophobic Carbon Nanotube Electrode Produces a Near-Symmetrical Alternating Current from Photosynthetic Protein-Based Photoelectrochemical Cells. *Advanced Functional Materials*, **2013**, 23, 5556-5563	15.6	28
18	Increasing the open-circuit voltage of photoprotein-based photoelectrochemical cells by manipulation of the vacuum potential of the electrolytes. *ACS Nano*, **2012**, 6, 9103-9	16.7	35
17	Generation of Alternating Current in Response to Discontinuous Illumination by Photoelectrochemical Cells Based on Photosynthetic Proteins. *Angewandte Chemie*, **2012**, 124, 6771-6775	3.6	2
16	Generation of alternating current in response to discontinuous illumination by photoelectrochemical cells based on photosynthetic proteins. *Angewandte Chemie - International Edition*, **2012**, 51, 6667-71	16.4	56
15	An efficient DSSC based on ZnO nanowire photo-anodes and a new D-A organic dye. *Energy and Environmental Science*, **2011**, 4, 2903	35.4	46
14	Investigating the Hydrothermal Growth of Zinc Oxide Nanostructures Through Seed Layer Control. *Zeitschrift Fur Physikalische Chemie*, **2011**, 225, 341-350	3.1	1
13	Understanding the Dielectric Properties of Heat-Treated Carbon Nanofibers at Terahertz Frequencies: a New Perspective on the Catalytic Activity of Structured Carbonaceous Materials. *Journal of Physical Chemistry C*, **2009**, 113, 10554-10559	3.8	30
12	Heterojunction photovoltaic devices utilizing single wall carbon nanotube thin films and silicon substrates. *Conference Record of the IEEE Photovoltaic Specialists Conference*, **2008**,		1
11	Understanding the catalytic activity of heat treated carbon nanofibres: Investigation of their dielectric properties at THz frequencies **2008**,		1
10	Structural and magnetic characterization of soft-magnetic FeCo alloy nanoparticles. *Journal of Electron Spectroscopy and Related Phenomena*, **2006**, 150, 11-14	1.7	27
9	Thickness dependence of X-ray absorption and photoemission in Fe thin films on Si(0 0 1). *Journal of Electron Spectroscopy and Related Phenomena*, **2006**, 151, 199-203	1.7	16
8	The Effect of Film Thickness on the C40 TiSi[sub 2] to C54 TiSi[sub 2] Transition Temperature. *Journal of the Electrochemical Society*, **2005**, 152, G754	3.9	4

7	Atomic structure of the 6H-SiC(0001) nanomesh. *Surface Science*, **2005**, 596, 176-186	1.8	165
6	Mechanism of simultaneous formation of refractory-metal free C40 and C49TiSi2 induced by Q-switched Nd:Yttrium-aluminum-garnet laser irradiation. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **2005**, 23, 480		1
5	Structural study of refractory-metal-free C40 TiSi2 and its transformation to C54 TiSi2. *Applied Physics Letters*, **2002**, 80, 2266-2268	3.4	19
4	Augmenting Sensor Performance with Machine Learning Towards Smart Wearable Sensing Electronic Systems. *Advanced Intelligent Systems*,2100194	6	7
3	Repurposing face mask waste to construct floating photothermal evaporator for autonomous solar ocean farming. *EcoMat*,	9.4	9
2	Applications of bio-derived/bio-inspired materials in the field of interfacial solar steam generation. *Nano Research*,1	10	3
1	High-Performance Freshwater Harvesting System by Coupling Solar Desalination and Fog Collection with Hierarchical Porous Microneedle Arrays. *Advanced Functional Materials*,2113264	15.6	8