Matthew L Davies

List of Publications by Citations

58 papers	1,516 citations	20 h-index	38 g-index
60 ext. papers	1,755 ext. citations	7.6 avg, IF	4.78 L-index

#	Paper	IF	Citations
58	A one-step low temperature processing route for organolead halide perovskite solar cells. *Chemical Communications*, **2013**, 49, 7893-5	5.8	197
57	A transparent conductive adhesive laminate electrode for high-efficiency organic-inorganic lead halide perovskite solar cells. *Advanced Materials*, **2014**, 26, 7499-504	24	148
56	An effective approach of vapour assisted morphological tailoring for reducing metal defect sites in lead-free, (CH3NH3)3Bi2I9 bismuth-based perovskite solar cells for improved performance and long-term stability. *Nano Energy*, **2018**, 49, 614-624	17.1	119
55	Ultra-fast dye sensitisation and co-sensitisation for dye sensitized solar cells. *Chemical Communications*, **2010**, 46, 7256-8	5.8	88
54	Perovskite processing for photovoltaics: a spectro-thermal evaluation. *Journal of Materials Chemistry A*, **2014**, 2, 19338-19346	13	86
53	Green-Synthesis-Derived CdS Quantum Dots Using Tea Leaf Extract: Antimicrobial, Bioimaging, and Therapeutic Applications in Lung Cancer Cells. *ACS Applied Nano Materials*, **2018**, 1, 1683-1693	5.6	80
52	Photonic flash-annealing of lead halide perovskite solar cells in 1 ms. *Journal of Materials Chemistry A*, **2016**, 4, 3471-3476	13	78
51	Ultra-fast co-sensitization and tri-sensitization of dye-sensitized solar cells with N719, SQ1 and triarylamine dyes. *Journal of Materials Chemistry*, **2012**, 22, 13318		73
50	Rapid processing of perovskite solar cells in under 2.5 seconds. *Journal of Materials Chemistry A*, **2015**, 3, 9123-9127	13	54
49	A study of dye anchoring points in half-squarylium dyes for dye-sensitized solar cells. *Journal of Materials Chemistry A*, **2014**, 2, 4055-4066	13	36
48	Sustainable energy storage for solar home systems in rural Sub-Saharan Africa – A comparative examination of lifecycle aspects of battery technologies for circular economy, with emphasis on the South African context. *Energy*, **2019**, 166, 1207-1215	7.9	35
47	Development of selective, ultra-fast multiple co-sensitization to control dye loading in dye-sensitized solar cells. *RSC Advances*, **2014**, 4, 2515-2522	3.7	33
46	Ultra-fast sintered TiO2 films in dye-sensitized solar cells: phase variation, electron transport and recombination. *Journal of Materials Chemistry A*, **2013**, 1, 2225-2230	13	33
45	Roll-to-roll slot-die coated PIN perovskite solar cells using acetonitrile based single step perovskite solvent system. *Sustainable Energy and Fuels*, **2020**, 4, 3340-3351	5.8	31
44	Performance enhancement of solution processed perovskite solar cells incorporating functionalized silica nanoparticles. *Journal of Materials Chemistry A*, **2014**, 2, 17077-17084	13	29
43	Investigating the Superoxide Formation and Stability in Mesoporous Carbon Perovskite Solar Cells with an Aminovaleric Acid Additive. *Advanced Functional Materials*, **2020**, 30, 1909839	15.6	25
42	Nitrogen/Carbon-Coated Zero-Valent Copper as Highly Efficient Co-catalysts for TiO Applied in Photocatalytic and Photoelectrocatalytic Hydrogen Production. *ACS Applied Materials & Interfaces*, **2020**, 12, 30365-30380	9.5	23

41	Towards Increased Recovery of Critical Raw Materials from WEEE□evaluation of CRMs at a component level and pre-processing methods for interface optimisation with recovery processes. *Resources, Conservation and Recycling*, **2020**, 161, 104923	11.9	23
40	Interpreting time-resolved photoluminescence of perovskite materials. *Physical Chemistry Chemical Physics*, **2020**, 22, 28345-28358	3.6	22
39	Multiphoton Absorption Stimulated Metal Chalcogenide Quantum Dot Solar Cells under Ambient and Concentrated Irradiance. *Advanced Functional Materials*, **2020**, 30, 2004563	15.6	21
38	Impact of Aggregation on the Photochemistry of Fullerene Films: Correlating Stability to Triplet Exciton Kinetics. *ACS Applied Materials & Interfaces*, **2017**, 9, 22739-22747	9.5	20
37	Multiple linker half-squarylium dyes for dye-sensitized solar cells; are two linkers better than one?. *Journal of Materials Chemistry A*, **2015**, 3, 2883-2894	13	20
36	Effect of aggregation on the photophysical properties of three fluorene-phenylene-based cationic conjugated polyelectrolytes. *Journal of Physical Chemistry B*, **2011**, 115, 6885-92	3.4	19
35	Sustainable solvent selection for the manufacture of methylammonium lead triiodide (MAPbI3) perovskite solar cells. *Green Chemistry*, **2021**, 23, 2471-2486	10	18
34	Cationic fluorene-based conjugated polyelectrolytes induce compaction and bridging in DNA. *Biomacromolecules*, **2009**, 10, 2987-97	6.9	17
33	A facile approach towards increasing the nitrogen-content in nitrogen-doped carbon nanotubes via halogenated catalysts. *Journal of Solid State Chemistry*, **2016**, 235, 202-211	3.3	15
32	A novel dimethylformamide (DMF) free bar-cast method to deposit organolead perovskite thin films with improved stability. *Chemical Communications*, **2016**, 52, 4301-4	5.8	15
31	Low temperature sintering of binder-containing TiO2/metal peroxide pastes for dye-sensitized solar cells. *Journal of Materials Chemistry A*, **2014**, 2, 11134-11143	13	13
30	Shining a light on the photoluminescence behaviour of methylammonium lead iodide perovskite: investigating the competing photobrightening and photodarkening processes. *Materials Letters*, **2019**, 243, 191-194	3.3	12
29	Improving the light harvesting and colour range of methyl ammonium lead tri-bromide (MAPbBr) perovskite solar cells through co-sensitisation with organic dyes. *Chemical Communications*, **2018**, 55, 35-38	5.8	11
28	Utilization of waste tea leaves as bio-surfactant in CdS quantum dots synthesis and their cytotoxicity effect in breast cancer cells. *Applied Surface Science*, **2019**, 487, 159-170	6.7	11
27	Addressing the Stability of Lead Halide Perovskites. *Joule*, **2020**, 4, 1626-1627	27.8	11
26	Convenient synthesis of EDOT-based dyes by CH-activation and their application as dyes in dye-sensitized solar cells. *Journal of Materials Chemistry A*, **2016**, 4, 15655-15661	13	11
25	In depth analysis of the quenching of three fluorene-phenylene-based cationic conjugated polyelectrolytes by DNA and DNA bases. *Journal of Physical Chemistry B*, **2014**, 118, 460-9	3.4	10
24	□Valerolactone: A Nontoxic Green Solvent for Highly Stable Printed Mesoporous Perovskite Solar Cells. *Energy Technology*, **2021**, 9, 2100312	3.5	10

23	Synthesis, spectroscopy, photophysics and thermal behaviour of stilbene-based triarylamines with dehydroabietic acid methyl ester moieties. *New Journal of Chemistry*, **2009**, 33, 877	3.6	9
22	Facile self-assembly and stabilization of metal oxide nanoparticles. *Journal of Colloid and Interface Science*, **2015**, 442, 110-9	9.3	8
21	In situ monitoring and optimization of room temperature ultra-fast sensitization for dye-sensitized solar cells. *Chemical Communications*, **2014**, 50, 12512-4	5.8	8
20	Control of the distance between porphyrin sensitizers and the TiO2 surface in solar cells by designed anchoring groups. *Journal of Molecular Structure*, **2019**, 1196, 444-454	3.4	6
19	Cholesterol-rich naked mole-rat brain lipid membranes are susceptible to amyloid beta-induced damage. *Aging*, **2020**, 12, 22266-22290	5.6	6
18	Compositions, colours and efficiencies of organic–inorganic lead iodide/bromide perovskites for solar cells. *Materials Research Innovations*, **2014**, 18, 482-485	1.9	5
17	Do DNA and Guanine Quench Fluorescence of Conjugated Cationic Polymers by Induced Aggregation?. *Portugaliae Electrochimica Acta*, **2009**, 27, 525-531	2.4	4
16	**2016**,		4
15	Low temperature sintering of aqueous TiO2 colloids for flexible, co-sensitized dye-sensitized solar cells. *Materials Letters*, **2019**, 236, 289-291	3.3	4
14	Factors leading to low cost dye sensitised solar cells with ‘go faster’ stripes. *Materials Research Innovations*, **2014**, 18, 91-94	1.9	3
13	Effect of TiO2Photoanode Porosity on Dye Diffusion Kinetics and Performance of Standard Dye-Sensitized Solar Cells. *Journal of Nanomaterials*, **2016**, 2016, 1-10	3.2	3
12	Surface interactions of half-squaraine dyes in dye-sensitized solar cells. *Materials Research Innovations*, **2015**, 19, 494-496	1.9	2
11	On the Use of Carbon Cables from Plastic Solvent Combinations of Polystyrene and Toluene in Carbon Nanotube Synthesis.. *Nanomaterials*, **2021**, 12,	5.4	2
10	Photoinduced charge transfer: from photography to solar energy. *Science Progress*, **2017**, 100, 212-230	1.1	1
9	Performance-Enhancing Sulfur-Doped TiO2 Photoanodes for Perovskite Solar Cells. *Applied Sciences (Switzerland)*, **2022**, 12, 429	2.6	1
8	Pyrene and nile red fluorescence probes for in-situ study of polarity and viscosity of soil organic coatings implicated in soil water repellency. *European Journal of Soil Science*, **2020**, 71, 868	3.4	1
7	Sustainable Solar Energy Collection and Storage for Rural Sub-Saharan Africa **2018**, 81-107		1
6	Photocatalytic H production and degradation of aqueous 2-chlorophenol over B/N-graphene-coated Cu/TiO: A DFT, experimental and mechanistic investigation.. *Journal of Environmental Management*, **2022**, 311, 114822	7.9	1

List of Publications

5	Photovoltaic product form and importance of colour. *Materials Research Innovations*, **2014**, 18, 486-489	1.9	0
4	A review of graphene derivative enhancers for perovskite solar cells. *Nanoscale Advances*,	5.1	0
3	Photochemical Materials: Absorbers, Emitters, Displays, Sensitisers, Acceptors, Traps and Photochromics **2013**, 149-216		
2	Study of optical losses in mechanically stacked dye-sensitized/CdTe tandem solar cells. *Materials Research Society Symposia Proceedings*, **2013**, 1538, 221-226		
1	TiO2 Film Morphology, Electron Transport and Electron Lifetime in Ultra-fast Sintered Dye-sensitized Solar Cells. *Materials Research Society Symposia Proceedings*, **2013**, 1493, 121-126		