Russell J Holmes

List of Publications by Year in Descending Order

90 papers	3,839 citations	29 h-index	60 g-index
100 ext. papers	4,251 ext. citations	9.1 avg, IF	5.84 L-index

#	Paper	IF	Citations
90	Consensus statement: Standardized reporting of power-producing luminescent solar concentrator performance. *Joule*, **2022**, 6, 8-15	27.8	14
89	Impact of Grain Boundaries on Triplet Exciton Diffusion in Organic Singlet-Fission Materials. *Journal of Physical Chemistry C*, **2022**, 126, 4792-4798	3.8	1
88	17.3: Invited Paper: In-operando Measurements of Photoluminescence to Probe Degradation and Low-Bias Exciton-Polaron Quenching in OLEDs. *Digest of Technical Papers SID International Symposium*, **2021**, 52, 230-230	0.5	
87	Device-Based Probe of Triplet Exciton Diffusion in Singlet Fission Materials. *Journal of Physical Chemistry Letters*, **2021**, 12, 966-972	6.4	3
86	Plasmonic nanocomposites of zinc oxide and titanium nitride. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2020**, 38, 042404	2.9	3
85	Impact of molecular structure on singlet and triplet exciton diffusion in phenanthroline derivatives. *Journal of Materials Chemistry C*, **2020**, 8, 6118-6123	7.1	4
84	Role of host excimer formation in the degradation of organic light-emitting devices. *Applied Physics Letters*, **2020**, 116, 063302	3.4	3
83	Migration of Charge-Transfer States at Organic Semiconductor Heterojunctions. *ACS Applied Materials & Interfaces*, **2020**, 12, 31677-31686	9.5	2
82	Probing Enhanced Exciton Diffusion in a Triplet-Sensitized Organic Photovoltaic Cell. *Journal of Physical Chemistry C*, **2020**, 124, 3489-3495	3.8	4
81	Mitigating Damage to Hybrid Perovskites Using Pulsed-Beam TEM. *ACS Omega*, **2020**, 5, 31867-31871	3.9	7
80	Solid-State Properties and Spectroscopic Analysis of Thin-Film TPBi. *Journal of Physical Chemistry C*, **2020**, 124, 23716-23723	3.8	1
79	Formation of Stable Metal Halide Perovskite/Perovskite Heterojunctions. *ACS Energy Letters*, **2020**, 5, 3443-3451	20.1	9
78	Sub-turn-on exciton quenching due to molecular orientation and polarization in organic light-emitting devices. *Science Advances*, **2020**, 6, eabb2659	14.3	21
77	Investigation of Excitonic Gates in Organic Semiconductor Thin Films. *Physical Review Applied*, **2019**, 11,	4.3	4
76	Formation of aligned periodic patterns during the crystallization of organic semiconductor thin films. *Nature Materials*, **2019**, 18, 725-731	27	29
75	Lead-free double perovskites CsInCuCl and (CHNH)InCuCl: electronic, optical, and electrical properties. *Nanoscale*, **2019**, 11, 11173-11182	7.7	18
74	Measurement of the triplet exciton diffusion length in organic semiconductors. *Journal of Materials Chemistry C*, **2019**, 7, 5695-5701	7.1	7

73	Improved stability in organic light-emitting devices by mixing ambipolar and wide energy gap hosts. *Journal of the Society for Information Display*, **2019**, 27, 434	2.1	3
72	Intrinsic measurements of exciton transport in photovoltaic cells. *Nature Communications*, **2019**, 10, 1156	17.4	20
71	Carrier-gas assisted vapor deposition for highly tunable morphology of halide perovskite thin films. *Sustainable Energy and Fuels*, **2019**, 3, 2447-2455	5.8	6
70	Isolating Degradation Mechanisms in Mixed Emissive Layer Organic Light-Emitting Devices. *ACS Applied Materials & Interfaces*, **2018**, 10, 5693-5699	9.5	20
69	Decoupling Photocurrent Loss Mechanisms in Photovoltaic Cells Using Complementary Measurements of Exciton Diffusion. *Advanced Energy Materials*, **2018**, 8, 1702339	21.8	8
68	Computational Study of Structural and Electronic Properties of Lead-Free CsMI3 Perovskites (M = Ge, Sn, Pb, Mg, Ca, Sr, and Ba). *Journal of Physical Chemistry C*, **2018**, 122, 7838-7848	3.8	45
67	Understanding and Engineering Exciton Transport. *Materials and Energy*, **2018**, 209-264		
66	Overcoming the trade-off between exciton dissociation and charge recombination in organic photovoltaic cells. *Applied Physics Letters*, **2018**, 113, 143302	3.4	7
65	Enhancing energy transport in conjugated polymers. *Science*, **2018**, 360, 854-855	33.3	3
64	Volume diffusion in purification by sublimation. *AICHE Journal*, **2017**, 63, 1757-1764	3.6	1
63	Probing dark exciton diffusion using photovoltage. *Nature Communications*, **2017**, 8, 14215	17.4	16
62	10-2: Invited Paper: Unified Analysis of Transient and Steady-State Electroluminescence Establishing an Analytical Formalism for OLED Charge Balance. *Digest of Technical Papers SID International Symposium*, **2017**, 48, 115-118	0.5	
61	Effects of Additives on Crystallization in Thin Organic Films. *Crystal Growth and Design*, **2017**, 17, 4522-4526	3.9	5
60	Decoupling degradation in exciton formation and recombination during lifetime testing of organic light-emitting devices. *Applied Physics Letters*, **2017**, 111, 113301	3.4	12
59	Impact of Thermal Annealing on Organic Photovoltaic Cells Using Regioisomeric Donor-Acceptor-Acceptor Molecules. *ACS Applied Materials & Interfaces*, **2017**, 9, 25418-25425	9.5	31
58	Photovoltage as a quantitative probe of carrier generation and recombination in organic photovoltaic cells. *Journal of Materials Chemistry C*, **2017**, 5, 11885-11891	7.1	9
57	Blue-Emitting Arylalkynyl Naphthalene Derivatives via a Hexadehydro-Diels-Alder Cascade Reaction. *Journal of the American Chemical Society*, **2016**, 138, 12739-12742	16.4	24
56	Crystal Morphology and Growth in Annealed Rubrene Thin Films. *Crystal Growth and Design*, **2016**, 16, 4720-4726	3.5	24

55	Sublimation as a function of diffusion. *AICHE Journal*, **2016**, 62, 861-867	3.6	3
54	Temperature-Dependent Bias Poling and Hysteresis in Planar Organo-Metal Halide Perovskite Photovoltaic Cells. *Advanced Energy Materials*, **2016**, 6, 1501994	21.8	33
53	Role of impurities in determining the exciton diffusion length in organic semiconductors. *Applied Physics Letters*, **2016**, 108, 163301	3.4	10
52	Unified analysis of transient and steady-state electrophosphorescence using exciton and polaron dynamics modeling. *Journal of Applied Physics*, **2016**, 120, 195501	2.5	17
51	Evaluating the role of energetic disorder and thermal activation in exciton transport. *Journal of Materials Chemistry C*, **2016**, 4, 3437-3442	7.1	10
50	Effect of Rapid Pressurization on the Solubility of Small Organic Molecules. *Crystal Growth and Design*, **2016**, 16, 1404-1408	3.5	2
49	Femtosecond to nanosecond excited state dynamics of vapor deposited copper phthalocyanine thin films. *Physical Chemistry Chemical Physics*, **2016**, 18, 11454-9	3.6	29
48	Exciton Transport in an Organic Semiconductor Exhibiting Thermally Activated Delayed Fluorescence. *Journal of Physical Chemistry C*, **2016**, 120, 8502-8508	3.8	35
47	Experimental Characterization of Charge and Exciton Transport in Organic Semiconductors. *Materials and Energy*, **2016**, 231-291		3
46	Directing energy transport in organic photovoltaic cells using interfacial exciton gates. *ACS Nano*, **2015**, 9, 4543-52	16.7	16
45	The Role of Exciton Ionization Processes in Bulk Heterojunction Organic Photovoltaic Cells. *Advanced Energy Materials*, **2015**, 5, 1500019	21.8	15
44	Correlation between the Open-Circuit Voltage and Charge Transfer State Energy in Organic Photovoltaic Cells. *ACS Applied Materials & Interfaces*, **2015**, 7, 18306-11	9.5	21
43	Relating photocurrent, photovoltage, and charge carrier density to the recombination rate in organic photovoltaic cells. *Applied Physics Letters*, **2015**, 107, 123303	3.4	9
42	Mechanism for the separation of organic semiconductors via thermal gradient sublimation. *Organic Electronics*, **2015**, 24, 212-218	3.5	5
41	Intermolecular Interactions Determine Exciton Lifetimes in Neat Films and Solid State Solutions of Metal-Free Phthalocyanine. *Journal of Physical Chemistry C*, **2015**, 119, 27340-27347	3.8	18
40	Energy-cascade organic photovoltaic devices incorporating a host-guest architecture. *ACS Applied Materials & Interfaces*, **2015**, 7, 2912-8	9.5	25
39	Understanding rate-limiting processes for the sublimation of small molecule organic semiconductors. *AICHE Journal*, **2014**, 60, 1347-1354	3.6	10
38	Exciton diffusion in organic photovoltaic cells. *Energy and Environmental Science*, **2014**, 7, 499-512	35.4	267

37	Depth profiling organic light-emitting devices by gas-cluster ion beam sputtering and X-ray photoelectron spectroscopy. *Organic Electronics*, **2014**, 15, 2988-2992	3.5	8
36	7.9% efficient vapor-deposited organic photovoltaic cells based on a simple bulk heterojunction. *Journal of Materials Chemistry A*, **2014**, 2, 12397	13	31
35	Engineering Efficiency Roll-Off in Organic Light-Emitting Devices. *Advanced Functional Materials*, **2014**, 24, 6074-6080	15.6	74
34	Organic polaritons: Long-distance relationships. *Nature Materials*, **2014**, 13, 669-70	27	1
33	Interpreting impedance spectra of organic photovoltaic cells: Extracting charge transit and recombination rates. *Journal of Applied Physics*, **2014**, 116, 124513	2.5	11
32	Optical spacing effect in organic photovoltaic cells incorporating a dilute acceptor layer. *Applied Physics Letters*, **2014**, 104, 243302	3.4	5
31	Tin naphthalocyanine complexes for infrared absorption in organic photovoltaic cells. *Organic Electronics*, **2013**, 14, 804-808	3.5	23
30	Investigating the Role of Emissive Layer Architecture on the Exciton Recombination Zone in Organic Light-Emitting Devices. *Advanced Functional Materials*, **2013**, 23, 5190-5198	15.6	57
29	Tailored exciton diffusion in organic photovoltaic cells for enhanced power conversion efficiency. *Nature Materials*, **2013**, 12, 152-7	27	159
28	Connecting molecular structure and exciton diffusion length in rubrene derivatives. *Advanced Materials*, **2013**, 25, 3689-93	24	50
27	Influence of a MoOx interlayer on the open-circuit voltage in organic photovoltaic cells. *Applied Physics Letters*, **2013**, 103, 053302	3.4	29
26	Efficient Organic Photovoltaic Cells Based on Nanocrystalline Mixtures of Boron Subphthalocyanine Chloride and C60. *Advanced Functional Materials*, **2012**, 22, 617-624	15.6	116
25	Diarylindenotetracenes via a selective cross-coupling/C-H functionalization: electron donors for organic photovoltaic cells. *Organic Letters*, **2012**, 14, 1390-3	6.2	35
24	Tandem organic photodetectors with tunable, broadband response. *Applied Physics Letters*, **2012**, 101, 223301	3.4	29
23	Efficient, bulk heterojunction organic photovoltaic cells based on boron subphthalocyanine chloride-C70. *Applied Physics Letters*, **2012**, 101, 033308	3.4	58
22	Nanoporous Poly(3,4-ethylenedioxythiophene) Derived from Polymeric Bicontinuous Microemulsion Templates. *Macromolecules*, **2012**, 45, 599-601	5.5	20
21	Long-range, photon-mediated exciton hybridization in an all-organic, one-dimensional photonic crystal. *Physical Review Letters*, **2012**, 109, 096401	7.4	11
20	High-Transconductance Organic Thin-Film Electrochemical Transistors for Driving Low-Voltage Red-Green-Blue Active Matrix Organic Light-Emitting Devices. *Advanced Functional Materials*, **2012**, 22, 1623-1631	15.6	53

19	An all-gas-phase approach for the fabrication of silicon nanocrystal light-emitting devices. *Nano Letters*, **2012**, 12, 2822-5	11.5	58
18	Characterizing the charge collection efficiency in bulk heterojunction organic photovoltaic cells. *Applied Physics Letters*, **2012**, 100, 083303	3.4	30
17	High-efficiency silicon nanocrystal light-emitting devices. *Nano Letters*, **2011**, 11, 1952-6	11.5	300
16	Relating charge transport and performance in single-layer graded-composition organic light-emitting devices. *Journal of Applied Physics*, **2011**, 110, 084515	2.5	16
15	Investigation of Energy Transfer in Organic Photovoltaic Cells and Impact on Exciton Diffusion Length Measurements. *Advanced Functional Materials*, **2011**, 21, 764-771	15.6	123
14	Nanoporous polyethylene thin films templated by polymeric bicontinuous microemulsions: evolution of morphology on non-neutral substrates. *ACS Applied Materials & Interfaces*, **2011**, 3, 4101-11	9.5	7
13	Polarization splitting in polariton electroluminescence from an organic semiconductor microcavity with metallic reflectors. *Applied Physics Letters*, **2011**, 98, 233301	3.4	14
12	Thermally activated population of microcavity polariton states under optical and electrical excitation. *Physical Review B*, **2011**, 83,	3.3	6
11	Self-assembled plasmonic electrodes for high-performance organic photovoltaic cells. *Applied Physics Letters*, **2011**, 99, 103306	3.4	26
10	Electrical excitation of microcavity polaritons by radiative pumping from a weakly coupled organic semiconductor. *Physical Review B*, **2010**, 82,	3.3	16
9	Highly efficient, single-layer organic light-emitting devices based on a graded-composition emissive layer. *Applied Physics Letters*, **2010**, 97, 083308	3.4	57
8	Hybrid silicon nanocrystal-organic light-emitting devices for infrared electroluminescence. *Nano Letters*, **2010**, 10, 1154-7	11.5	117
7	Organic Photovoltaic Cells Based on Continuously Graded Donor–Acceptor Heterojunctions. *IEEE Journal of Selected Topics in Quantum Electronics*, **2010**, 16, 1537-1543	3.8	12
6	Graded donor-acceptor heterojunctions for efficient organic photovoltaic cells. *Advanced Materials*, **2010**, 22, 5301-5	24	81
5	Enhanced exciton diffusion in an organic photovoltaic cell by energy transfer using a phosphorescent sensitizer. *Applied Physics Letters*, **2009**, 94, 153304	3.4	88
4	Plasmonic nanocavity arrays for enhanced efficiency in organic photovoltaic cells. *Applied Physics Letters*, **2008**, 93, 123308	3.4	149
3	Blue and near-UV phosphorescence from iridium complexes with cyclometalated pyrazolyl or N-heterocyclic carbene ligands. *Inorganic Chemistry*, **2005**, 44, 7992-8003	5.1	573
2	22.1: Invited Paper: Color Tuning Dopants for Electrophosphorescent Devices: Toward Efficient Blue Phosphorescence from Metal Complexes. *Digest of Technical Papers SID International Symposium*, **2005**, 36, 1058	0.5	5

1	Ultrahigh Energy Gap Hosts in Deep Blue Organic Electrophosphorescent Devices. *Chemistry of Materials*, **2004**, 16, 4743-4747	9.6	450