Gregory D Scholes

List of Publications by Citations

260 papers	19,380 citations	67 h-index	135 g-index
415 ext. papers	21,833 ext. citations	9.1 avg, IF	7.41 L-index

#	Paper	IF	Citations
260	Lessons from nature about solar light harvesting. *Nature Chemistry*, **2011**, 3, 763-74	17.6	1293
259	Coherently wired light-harvesting in photosynthetic marine algae at ambient temperature. *Nature*, **2010**, 463, 644-7	50.4	1233
258	Excitons in nanoscale systems. *Nature Materials*, **2006**, 5, 683-96	27	981
257	Long-range resonance energy transfer in molecular systems. *Annual Review of Physical Chemistry*, **2003**, 54, 57-87	15.7	957
256	Efficient perovskite light-emitting diodes featuring nanometre-sized crystallites. *Nature Photonics*, **2017**, 11, 108-115	33.9	949
255	Coherent intrachain energy migration in a conjugated polymer at room temperature. *Science*, **2009**, 323, 369-73	33.3	657
254	Calculation of Couplings and Energy-Transfer Pathways between the Pigments of LH2 by the ab Initio Transition Density Cube Method. *Journal of Physical Chemistry B*, **1998**, 102, 5378-5386	3.4	584
253	Light Absorption and Energy Transfer in the Antenna Complexes of Photosynthetic Organisms. *Chemical Reviews*, **2017**, 117, 249-293	68.1	549
252	On the Mechanism of Light Harvesting in Photosynthetic Purple Bacteria: B800 to B850 Energy Transfer. *Journal of Physical Chemistry B*, **2000**, 104, 1854-1868	3.4	385
251	Beyond F□sster resonance energy transfer in biological and nanoscale systems. *Journal of Physical Chemistry B*, **2009**, 113, 6583-99	3.4	370
250	Using coherence to enhance function in chemical and biophysical systems. *Nature*, **2017**, 543, 647-656	50.4	367
249	Coherence in energy transfer and photosynthesis. *Annual Review of Physical Chemistry*, **2015**, 66, 69-96	15.7	271
248	Electronic Energy Transfer in Condensed Phase Studied by a Polarizable QM/MM Model. *Journal of Chemical Theory and Computation*, **2009**, 5, 1838-48	6.4	223
247	Electronic Energy Transfer and Quantum-Coherence in □Conjugated Polymers□ *Chemistry of Materials*, **2011**, 23, 610-620	9.6	212
246	Adapting the F□sster Theory of Energy Transfer for Modeling Dynamics in Aggregated Molecular Assemblies. *Journal of Physical Chemistry B*, **2001**, 105, 1640-1651	3.4	208
245	Controlling the Optical Properties of Inorganic Nanoparticles. *Advanced Functional Materials*, **2008**, 18, 1157-1172	15.6	204
244	Structure-Tuned Lead Halide Perovskite Nanocrystals. *Advanced Materials*, **2016**, 28, 566-73	24	196

243	Photovoltaic concepts inspired by coherence effects in photosynthetic systems. *Nature Materials*, **2016**, 16, 35-44	27	191
242	Rate expressions for excitation transfer. II. Electronic considerations of direct and through□configuration exciton resonance interactions. *Journal of Chemical Physics*, **1994**, 101, 10521-10525	3.9	191
241	Quantum-Coherent Electronic Energy Transfer: Did Nature Think of It First?. *Journal of Physical Chemistry Letters*, **2010**, 1, 2-8	6.4	188
240	Photosynthetic light harvesting: excitons and coherence. *Journal of the Royal Society Interface*, **2014**, 11, 20130901	4.1	180
239	Comparison of Electronic and Vibrational Coherence Measured by Two-Dimensional Electronic Spectroscopy. *Journal of Physical Chemistry Letters*, **2011**, 2, 1904-1911	6.4	170
238	The fundamental role of quantized vibrations in coherent light harvesting by cryptophyte algae. *Journal of Chemical Physics*, **2012**, 137, 174109	3.9	166
237	Energy transfer from F□sterD□exter theory to quantum coherent light-harvesting. *International Reviews in Physical Chemistry*, **2011**, 30, 49-77	7	165
236	Exciton delocalization drives rapid singlet fission in nanoparticles of acene derivatives. *Journal of the American Chemical Society*, **2015**, 137, 6790-803	16.4	163
235	Highly Efficient Warm White Organic Light-Emitting Diodes by Triplet Exciton Conversion. *Advanced Functional Materials*, **2013**, 23, 705-712	15.6	154
234	How solvent controls electronic energy transfer and light harvesting. *Journal of Physical Chemistry B*, **2007**, 111, 6978-82	3.4	150
233	Quantitative investigations of quantum coherence for a light-harvesting protein at conditions simulating photosynthesis. *Physical Chemistry Chemical Physics*, **2012**, 14, 4857-74	3.6	149
232	Observation of Two Triplet-Pair Intermediates in Singlet Exciton Fission. *Journal of Physical Chemistry Letters*, **2016**, 7, 2370-5	6.4	145
231	Long-Lived Charge-Transfer States of Nickel(II) Aryl Halide Complexes Facilitate Bimolecular Photoinduced Electron Transfer. *Journal of the American Chemical Society*, **2018**, 140, 3035-3039	16.4	134
230	Photoexcitation of flavoenzymes enables a stereoselective radical cyclization. *Science*, **2019**, 364, 1166-1169	33.3	131
229	Conformational disorder and ultrafast exciton relaxation in PPV-family conjugated polymers. *Journal of Physical Chemistry B*, **2009**, 113, 656-67	3.4	130
228	In Situ Preparation of Metal Halide Perovskite Nanocrystal Thin Films for Improved Light-Emitting Devices. *ACS Nano*, **2017**, 11, 3957-3964	16.7	128
227	A Water-Soluble pH-Responsive Molecular Brush of Poly(N,N-dimethylaminoethyl methacrylate) Grafted Polythiophene. *Macromolecules*, **2008**, 41, 6993-7002	5.5	127
226	Rate expressions for excitation transfer. III. An ab initio study of electronic factors in excitation transfer and exciton resonance interactions. *Journal of Chemical Physics*, **1995**, 102, 9574-9581	3.9	126

225	Broadband 2D electronic spectroscopy reveals a carotenoid dark state in purple bacteria. *Science*, **2013**, 340, 52-6	33.3	124
224	Pitfalls and limitations in the practical use of Förster's theory of resonance energy transfer. *Photochemical and Photobiological Sciences*, **2008**, 7, 1444-8	4.2	124
223	Mixed-Halide Perovskites with Stabilized Bandgaps. *Nano Letters*, **2017**, 17, 6863-6869	11.5	121
222	Tuning Singlet Fission in π-Bridge-π-Chromophores. *Journal of the American Chemical Society*, **2017**, 139, 12488-12494	16.4	115
221	Insights into excitons confined to nanoscale systems: electron-hole interaction, binding energy, and photodissociation. *ACS Nano*, **2008**, 2, 523-37	16.7	114
220	Charge Separation and Recombination in CdTe/CdSe Core/Shell Nanocrystals as a Function of Shell Coverage: Probing the Onset of the Quasi Type-II Regime. *Journal of Physical Chemistry Letters*, **2010**, 1, 2530-2535	6.4	113
219	Vibrational coherence probes the mechanism of ultrafast electron transfer in polymer-fullerene blends. *Nature Communications*, **2014**, 5, 4933	17.4	110
218	Photosynthetic light-harvesting is tuned by the heterogeneous polarizable environment of the protein. *Journal of the American Chemical Society*, **2011**, 133, 3078-84	16.4	110
217	Electronic and vibrational coherences in resonance energy transfer along MEH-PPV chains at room temperature. *Journal of Physical Chemistry A*, **2009**, 113, 4223-41	2.8	104
216	Charge Photogeneration in Neat Conjugated Polymers. *Chemistry of Materials*, **2014**, 26, 561-575	9.6	103
215	How solvent controls electronic energy transfer and light harvesting: toward a quantum-mechanical description of reaction field and screening effects. *Journal of Physical Chemistry B*, **2007**, 111, 13253-65	3.4	102
214	Solar light harvesting by energy transfer: from ecology to coherence. *Energy and Environmental Science*, **2012**, 5, 9374	35.4	99
213	Developing a structure-function model for the cryptophyte phycoerythrin 545 using ultrahigh resolution crystallography and ultrafast laser spectroscopy. *Journal of Molecular Biology*, **2004**, 344, 135-53	6.5	98
212	Examining Förster Energy Transfer for Semiconductor Nanocrystalline Quantum Dot Donors and Acceptors. *Journal of Physical Chemistry C*, **2008**, 112, 13336-13341	3.8	97
211	Electronic coherence lineshapes reveal hidden excitonic correlations in photosynthetic light harvesting. *Nature Chemistry*, **2012**, 4, 396-404	17.6	94
210	Two-dimensional electronic double-quantum coherence spectroscopy. *Accounts of Chemical Research*, **2009**, 42, 1375-84	24.3	93
209	Vibronic Enhancement of Algae Light Harvesting. *CheM*, **2016**, 1, 858-872	16.2	93
208	On the use of time-resolved photoluminescence as a probe of nanocrystal photoexcitation dynamics. *Journal of Materials Chemistry*, **2010**, 20, 3533		91

207	Water-Soluble CdSe Quantum Dots Passivated by a Multidentate Diblock Copolymer. *Macromolecules*, **2007**, 40, 6377-6384	5.5	90
206	Correlated Pair States Formed by Singlet Fission and Exciton-Exciton Annihilation. *Journal of Physical Chemistry A*, **2015**, 119, 12699-705	2.8	89
205	Exploiting chemistry and molecular systems for quantum information science. *Nature Reviews Chemistry*, **2020**, 4, 490-504	34.6	87
204	Exciton superposition states in CdSe nanocrystals measured using broadband two-dimensional electronic spectroscopy. *Nano Letters*, **2012**, 12, 880-6	11.5	84
203	d-d Excited States of Ni(II) Complexes Relevant to Photoredox Catalysis: Spectroscopic Identification and Mechanistic Implications. *Journal of the American Chemical Society*, **2020**, 142, 5800-5810	16.4	79
202	Room-temperature exciton coherence and dephasing in two-dimensional nanostructures. *Nature Communications*, **2015**, 6, 6086	17.4	76
201	Exciton Trapping and Recombination in Type II CdSe/CdTe Nanorod Heterostructures. *Journal of Physical Chemistry C*, **2008**, 112, 5423-5431	3.8	75
200	The photophysics of cryptophyte light-harvesting. *Journal of Photochemistry and Photobiology A: Chemistry*, **2006**, 184, 1-17	4.7	75
199	Exciton–Bath coupling and inhomogeneous broadening in the optical spectroscopy of semiconductor quantum dots. *Journal of Chemical Physics*, **2003**, 118, 9380-9388	3.9	75
198	Delayed fluorescence from a zirconium(IV) photosensitizer with ligand-to-metal charge-transfer excited states. *Nature Chemistry*, **2020**, 12, 345-352	17.6	72
197	Exciton fine structure and spin relaxation in semiconductor colloidal quantum dots. *Accounts of Chemical Research*, **2009**, 42, 1037-46	24.3	72
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192	Asymmetric redox-neutral radical cyclization catalysed by flavin-dependent 'ene'-reductases. *Nature Chemistry*, **2020**, 12, 71-75	17.6	67
191	Coherent oscillations in the PC577 cryptophyte antenna occur in the excited electronic state. *Journal of Physical Chemistry B*, **2014**, 118, 1296-308	3.4	65
190	Dynamic Exchange During Triplet Transport in Nanocrystalline TIPS-Pentacene Films. *Journal of the American Chemical Society*, **2016**, 138, 16069-16080	16.4	63

189	Dark States in the Light-Harvesting complex 2 Revealed by Two-dimensional Electronic Spectroscopy. *Scientific Reports*, **2016**, 6, 20834	4.9	62
188	Crossing disciplines - A view on two-dimensional optical spectroscopy. *Annalen Der Physik*, **2014**, 526, 31-49	2.6	62
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186	Transient Absorption Spectroscopy Offers Mechanistic Insights for an Iridium/Nickel-Catalyzed C-O Coupling. *Journal of the American Chemical Society*, **2020**, 142, 4555-4559	16.4	60
185	Exciton spin relaxation in quantum dots measured using ultrafast transient polarization grating spectroscopy. *Physical Review B*, **2006**, 73,	3.3	60
184	Mechanistic Analysis of Metallaphotoredox C-N Coupling: Photocatalysis Initiates and Perpetuates Ni(I)/Ni(III) Coupling Activity. *Journal of the American Chemical Society*, **2020**, 142, 15830-15841	16.4	59
183	Coherent Energy Transfer under Incoherent Light Conditions. *Journal of Physical Chemistry Letters*, **2012**, 3, 3136-42	6.4	57
182	Configuration interaction and the theory of electronic factors in energy transfer and molecular exciton interactions. *Journal of Chemical Physics*, **1996**, 104, 5054-5061	3.9	57
181	Engineering Perovskite Nanocrystal Surface Termination for Light-Emitting Diodes with External Quantum Efficiency Exceeding 15%. *Advanced Functional Materials*, **2019**, 29, 1807284	15.6	55
180	Excitation dynamics in Phycoerythrin 545: modeling of steady-state spectra and transient absorption with modified Redfield theory. *Biophysical Journal*, **2010**, 99, 344-52	2.9	55
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178	Direct Observation of Correlated Triplet Pair Dynamics during Singlet Fission Using Ultrafast Mid-IR Spectroscopy. *Journal of Physical Chemistry C*, **2018**, 122, 2012-2022	3.8	54
177	Bioinspiration in light harvesting and catalysis. *Nature Reviews Materials*, **2020**, 5, 828-846	73.3	54
176	Influence of Bulky Organo-Ammonium Halide Additive Choice on the Flexibility and Efficiency of Perovskite Light-Emitting Devices. *Advanced Functional Materials*, **2018**, 28, 1802060	15.6	53
175	Spectrally Resolved Ultrafast Exciton Transfer in Mixed Perovskite Quantum Wells. *Journal of Physical Chemistry Letters*, **2019**, 10, 419-426	6.4	53
174	Ultrafast light harvesting dynamics in the cryptophyte phycocyanin 645. *Photochemical and Photobiological Sciences*, **2007**, 6, 964-75	4.2	51
173	Loading quantum dots into thermo-responsive microgels by reversible transfer from organic solvents to water. *Journal of Materials Chemistry*, **2008**, 18, 763		50
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171	Relaxation in the Exciton Fine Structure of Semiconductor Nanocrystals. *Journal of Physical Chemistry C*, **2009**, 113, 795-811	3.8	48
170	Local protein solvation drives direct down-conversion in phycobiliprotein PC645 via incoherent vibronic transport. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E3342-E3350	11.5	47
169	Triplet Energy Transfer Governs the Dissociation of the Correlated Triplet Pair in Exothermic Singlet Fission. *Journal of Physical Chemistry Letters*, **2018**, 9, 4087-4095	6.4	47
168	Selection rules for probing biexcitons and electron spin transitions in isotropic quantum dot ensembles. *Journal of Chemical Physics*, **2004**, 121, 10104-10	3.9	47
167	Enhanced sub-bandgap efficiency of a solid-state organic intermediate band solar cell using triplet□triplet annihilation. *Energy and Environmental Science*, **2017**, 10, 1465-1475	35.4	46
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165	Carbene-Metal-Amide Bond Deformation, Rather Than Ligand Rotation, Drives Delayed Fluorescence. *Journal of Physical Chemistry Letters*, **2018**, 9, 1620-1626	6.4	46
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162	Measures and implications of electronic coherence in photosynthetic light-harvesting. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2012**, 370, 3728-49	3	44
161	Energy flow in the cryptophyte PE545 antenna is directed by bilin pigment conformation. *Journal of Physical Chemistry B*, **2013**, 117, 4263-73	3.4	43
160	Nanocrystal shape and the mechanism of exciton spin relaxation. *Nano Letters*, **2006**, 6, 1765-71	11.5	43
159	Broadband Transient Absorption and Two-Dimensional Electronic Spectroscopy of Methylene Blue. *Journal of Physical Chemistry A*, **2015**, 119, 9098-108	2.8	42
158	Methylene Blue Exciton States Steer Nonradiative Relaxation: Ultrafast Spectroscopy of Methylene Blue Dimer. *Journal of Physical Chemistry B*, **2016**, 120, 440-54	3.4	42
157	Spectroscopic Studies of Cryptophyte Light Harvesting Proteins: Vibrations and Coherent Oscillations. *Journal of Physical Chemistry B*, **2015**, 119, 10025-34	3.4	41
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153	Biexcitonic fine structure of CdSe nanocrystals probed by polarization-dependent two-dimensional photon echo spectroscopy. *Journal of Physical Chemistry A*, **2011**, 115, 3797-806	2.8	39
152	Broad-Band Pump-Probe Spectroscopy Quantifies Ultrafast Solvation Dynamics of Proteins and Molecules. *Journal of Physical Chemistry Letters*, **2016**, 7, 4722-4731	6.4	38
151	Slow Intramolecular Vibrational Relaxation Leads to Long-Lived Excited-State Wavepackets. *Journal of Physical Chemistry A*, **2016**, 120, 6792-9	2.8	38
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149	Intramolecular radiationless transitions dominate exciton relaxation dynamics. *Chemical Physics Letters*, **2014**, 599, 23-33	2.5	36
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141	Biexciton Resonances Reveal Exciton Localization in Stacked Perovskite Quantum Wells. *Journal of Physical Chemistry Letters*, **2017**, 8, 3895-3901	6.4	30
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139	Rate expressions for excitation transfer. IV. Energy migration and superexchange phenomena. *Journal of Chemical Physics*, **1995**, 103, 8873-8883	3.9	30
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137	The Nature of Excimer Formation in Crystalline Pyrene Nanoparticles. *Journal of Physical Chemistry C*, **2018**, 122, 21004-21017	3.8	30
136	DNA-Templated Aggregates of Strongly Coupled Cyanine Dyes: Nonradiative Decay Governs Exciton Lifetimes. *Journal of Physical Chemistry Letters*, **2019**, 10, 2386-2392	6.4	28

135	Adding Amorphous Content to Highly Crystalline Polymer Nanowire Solar Cells Increases Performance. *Advanced Materials*, **2015**, 27, 3484-91	24	28
134	Mediation of ultrafast light-harvesting by a central dimer in phycoerythrin 545 studied by transient absorption and global analysis. *Journal of Physical Chemistry B*, **2005**, 109, 14219-26	3.4	28
133	Ultrafast exciton dynamics in 2D in-plane hetero-nanostructures: delocalization and charge transfer. *Physical Chemistry Chemical Physics*, **2017**, 19, 8373-8379	3.6	27
132	Observing Vibrational Wavepackets during an Ultrafast Electron Transfer Reaction. *Journal of Physical Chemistry A*, **2015**, 119, 11837-46	2.8	26
131	Quantum dots in a metallopolymer host: studies of composites of polyferrocenes and CdSe nanocrystals. *Journal of Materials Chemistry*, **2003**, 13, 2213		26
130	Exploring Ultrafast Electronic Processes of Quasi-Type II Nanocrystals by Two-Dimensional Electronic Spectroscopy. *Journal of Physical Chemistry C*, **2014**, 118, 16255-16263	3.8	25
129	Photophysical characterization and time-resolved spectroscopy of a anthradithiophene dimer: exploring the role of conformation in singlet fission. *Physical Chemistry Chemical Physics*, **2017**, 19, 23162-23175	3.6	25
128	Acoustic phonon strain induced mixing of the fine structure levels in colloidal CdSe quantum dots observed by a polarization grating technique. *Journal of Chemical Physics*, **2010**, 132, 104506	3.9	25
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125	Measurement of electron-electron interactions and correlations using two-dimensional electronic double-quantum coherence spectroscopy. *Journal of Physical Chemistry A*, **2009**, 113, 12122-33	2.8	23
124	Quaternary Charge-Transfer Complex Enables Photoenzymatic Intermolecular Hydroalkylation of Olefins. *Journal of the American Chemical Society*, **2021**, 143, 97-102	16.4	23
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118	Site-selective tyrosine bioconjugation via photoredox catalysis for native-to-bioorthogonal protein transformation. *Nature Chemistry*, **2021**, 13, 902-908	17.6	21

117	Interplay of vibrational wavepackets during an ultrafast electron transfer reaction. *Nature Chemistry*, **2021**, 13, 70-76	17.6	19
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112	Quantum dynamics of a molecular emitter strongly coupled with surface plasmon polaritons: A macroscopic quantum electrodynamics approach. *Journal of Chemical Physics*, **2019**, 151, 014105	3.9	17
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109	Solution-processed inorganic perovskite crystals as achromatic quarter-wave plates. *Nature Photonics*, **2021**, 15, 813-816	33.9	17
108	Photoenzymatic Reductions Enabled by Direct Excitation of Flavin-Dependent "Ene"-Reductases. *Journal of the American Chemical Society*, **2021**, 143, 1735-1739	16.4	16
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105	Generalization of the hierarchical equations of motion theory for efficient calculations with arbitrary correlation functions. *Journal of Chemical Physics*, **2020**, 152, 204101	3.9	15
104	Overlap-Driven Splitting of Triplet Pairs in Singlet Fission. *Journal of the American Chemical Society*, **2020**, 142, 20040-20047	16.4	15
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101	Anisotropic Conjugated Polymer Chain Conformation Tailors the Energy Migration in Nanofibers. *Journal of the American Chemical Society*, **2016**, 138, 15497-15505	16.4	14
100	Shallow distance-dependent triplet energy migration mediated by endothermic charge-transfer. *Nature Communications*, **2021**, 12, 1532	17.4	14

99	Structural refinement of ladder-type perylenediimide dimers: a classical tale of conformational dynamics. *Journal of Organic Chemistry*, **2013**, 78, 8634-44	4.2	13
98	Vibronic Wavepackets and Energy Transfer in Cryptophyte Light-Harvesting Complexes. *Journal of Physical Chemistry B*, **2018**, 122, 6328-6340	3.4	13
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