

# Todd P Otanicar

## List of Publications by Year in descending order

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94  
papers

5,148  
citations

147726

31  
h-index

118793

62  
g-index

95  
all docs

95  
docs citations

95  
times ranked

3341  
citing authors

#	ARTICLE	IF	CITATIONS
1	Novel hybrid solar nanophotonic distillation membrane with photovoltaic module for co-production of electricity and water. Applied Energy, 2022, 305, 117944.	5.1	18
2	Bimodal particle distributions with increased thermal conductivity for solid particles as heat transfer media and storage materials. International Journal of Heat and Mass Transfer, 2022, 184, 122250.	2.5	16
3	Conceptual analysis framework development to understand barriers of nanofluid commercialization. Nano Energy, 2022, 92, 106736.	8.2	106
4	Unlocking nanomaterials for next generation solar-driven water treatment technologies. , 2022, , 263-309.		0
5	Experimental investigation of low velocity and high temperature solid particle impact erosion wear. Wear, 2022, 506-507, 204441.	1.5	6
6	Effect of temperature on abrasion erosion in particle based concentrating solar powerplants. Solar Energy, 2021, 224, 1127-1135.	2.9	7
7	A review of nanofluid-based direct absorption solar collectors: Design considerations and experiments with hybrid PV/Thermal and direct steam generation collectors. Renewable Energy, 2020, 145, 903-913.	4.3	140
8	Mechanical milling of thermoresponsive poly( <i>N</i> -isopropylacrylamide) hydrogel for particle-oriented oil-water separation. Journal of Applied Polymer Science, 2020, 137, 48771.	1.3	4
9	Annual simulation of photovoltaic retrofits within existing parabolic trough concentrating solar powerplants. Solar Energy, 2020, 211, 600-612.	2.9	10
10	Spectral beam splitting retrofit for hybrid PV/T using existing parabolic trough power plants for enhanced power output. Solar Energy, 2020, 202, 1-9.	2.9	22
11	Concentrating photovoltaic retrofit for existing parabolic trough solar collectors: Design, experiments, and leveled cost of electricity. Applied Energy, 2020, 265, 114751.	5.1	22
12	Retrosol: Experimental testing of a hybrid CPV retrofit for existing parabolic trough powerplants. AIP Conference Proceedings, 2019, , .	0.3	0
13	Analysis of hybrid CPV retrofit on parabolic trough powerplants with storage. AIP Conference Proceedings, 2019, , .	0.3	0
14	Indium tin oxide and gold nanoparticle solar filters for concentrating photovoltaic thermal systems. Applied Energy, 2019, 252, 113459.	5.1	29
15	A NUMERICAL MODELING OF NATURAL CONVECTION AIR COOLING OF A BUTT-FUSION WELD. , 2019, , .		0
16	Detailed performance model of a hybrid photovoltaic/thermal system utilizing selective spectral nanofluid absorption. Renewable Energy, 2018, 123, 683-693.	4.3	70
17	Optical Properties of Colloidal Indium Tin Oxide Suspended in a Thermal Fluid. Journal of Physical Chemistry C, 2018, 122, 5639-5646.	1.5	14
18	Solar Selective Volumetric Receivers for Harnessing Solar Thermal Energy. Journal of Heat Transfer, 2018, 140, .	1.2	17

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19	Thermodynamic analysis of hybrid humidification-dehumidification (HDH) - reverse osmosis (RO) desalination system powered by concentrating photovoltaic/thermal solar collector. AIP Conference Proceedings, 2018, , .	0.3	8
20	Design and Analysis of a CPV Retrofit for Parabolic Trough Powerplants. , 2018, , .		0
21	Nanoparticle based concentrating photovoltaic/thermal hybrid collector. AIP Conference Proceedings, 2018, , .	0.3	2
22	Parabolic trough powerplants nearing PPA end: Retrofit or replace?. AIP Conference Proceedings, 2018, , .	0.3	3
23	Experimental evaluation of a prototype hybrid CPV/T system utilizing a nanoparticle fluid absorber at elevated temperatures. Applied Energy, 2018, 228, 1531-1539.	5.1	83
24	Technological Advances to Maximize Solar Collector Energy Output: A Review. Journal of Electronic Packaging, Transactions of the ASME, 2018, 140, .	1.2	16
25	PHASE SEPARATION ENHANCED HEAT TRANSFER VIA THE OUZO DROP. , 2018, , .		0
26	HYBRID SOLAR ENERGY/DESALINATION USING SPECTRALLY SELECTIVE MEMBRANE DISTILLATION. , 2018, , .		1
27	Experimental Validation of a Novel Light-Splitting Technique for Retrofitting CSP Plants by Hybridizing with CPV. , 2017, , .		0
28	Performance and Economic Optimization of Hybrid Solar Thermal and Photovoltaic Power Plants with Dynamic Simulation. , 2017, , .		0
29	Solar Selective Volumetric Receivers for Harnessing Solar Thermal Energy. , 2016, , .		3
30	Comparison of selective transmitters for solar thermal applications. Applied Optics, 2016, 55, 3829.	2.1	26
31	Full Spectrum Collection of Concentrated Solar Energy Using PV Coupled with Selective Filtration Utilizing Nanoparticles. MRS Advances, 2016, 1, 2935-2940.	0.5	9
32	Filtering light with nanoparticles: a review of optically selective particles and applications. Advances in Optics and Photonics, 2016, 8, 541.	12.1	57
33	Nanoparticle enhanced spectral filtration of insolation from trough concentrators. Solar Energy Materials and Solar Cells, 2016, 149, 145-153.	3.0	43
34	A Parametric Investigation of a Concentrating Photovoltaic/Thermal System With Spectral Filtering Utilizing a Two-Dimensional Heat Transfer Model. Journal of Solar Energy Engineering, Transactions of the ASME, 2016, 138, .	1.1	28
35	Parametric Investigation of Concentrating PV/T System With Spectral Filtering Utilizing a 2-D Model. , 2015, , .		1
36	Theoretical Analysis and Testing of Nanofluids-Based Solar Photovoltaic/Thermal Hybrid Collector. Journal of Heat Transfer, 2015, 137, .	1.2	70

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37	Design and feasibility of high temperature nanoparticle fluid filter in hybrid thermal/photovoltaic concentrating solar power. Proceedings of SPIE, 2015, , .	0.8	5
38	Experimental and theoretical description of a technique for the concentration measurement of binary liquids containing nanoparticles. International Journal of Heat and Mass Transfer, 2015, 85, 561-567.	2.5	1
39	Controllable Optical Properties of Polystyrene/PNIPAM-Gold Composite Nanoparticles. Plasmonics, 2015, 10, 17-25.	1.8	3
40	Selective spectral filtration with nanoparticles for concentrating solar collectors. Journal of Photonics for Energy, 2015, 5, 057008.	0.8	16
41	Limits of selectivity of direct volumetric solar absorption. Solar Energy, 2015, 114, 206-216.	2.9	55
42	Applicability of Controllable Nanoparticle Radiative Properties for Spacecraft Heat Rejection. Journal of Thermophysics and Heat Transfer, 2015, 29, 869-874.	0.9	2
43	Fabrication and comparison of selective, transparent optics for concentrating solar systems. , 2015, , .		4
44	Multipetal-Structured and Dumbbell-Structured Gold-Polymer Composite Particles with Self-Modulated Catalytic Activity. Langmuir, 2015, 31, 13191-13200.	1.6	3
45	Envisioning advanced solar electricity generation: Parametric studies of CPV/T systems with spectral filtering and high temperature PV. Applied Energy, 2015, 140, 224-233.	5.1	76
46	A Geospatial Comparison of Distributed Solar Heat and Power in Europe and the US. PLoS ONE, 2014, 9, e112442.	1.1	38
47	Plasmonic nanoparticle based spectral fluid filters for concentrating PV/T collectors. Proceedings of SPIE, 2014, , .	0.8	7
48	Thermo-responsiveness and tunable optical properties of asymmetric polystyrene/PNIPAM-gold composite particles. Journal of Colloid and Interface Science, 2014, 425, 12-19.	5.0	18
49	Core-Shell and Asymmetric Polystyrene-Gold Composite Particles via One-Step Pickering Emulsion Polymerization. Langmuir, 2014, 30, 75-82.	1.6	38
50	Harvesting solar thermal energy through nanofluid-based volumetric absorption systems. International Journal of Heat and Mass Transfer, 2014, 77, 377-384.	2.5	123
51	The Impact of Thermal Engineering Research on Global Climate Change. , 2014, , .		0
52	Controllable Nanoparticle Radiative Properties for High-Turndown Ratio Heat Rejection. , 2014, , .		0
53	Multifunctional Core-Shell Nanoparticle Suspensions for Efficient Absorption. Journal of Solar Energy Engineering, Transactions of the ASME, 2013, 135, .	1.1	56
54	Experimental and numerical study on the optical properties and agglomeration of nanoparticle suspensions. Journal of Nanoparticle Research, 2013, 15, 1.	0.8	41

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55	Small particles, big impacts: A review of the diverse applications of nanofluids. Journal of Applied Physics, 2013, 113, .	1.1	622
56	Classification of Commercial Building Electrical Demand Profiles for Energy Storage Applications. Journal of Solar Energy Engineering, Transactions of the ASME, 2013, 135, .	1.1	13
57	Comparative Economic Analysis of Concentrating Solar Technologies. Journal of Solar Energy Engineering, Transactions of the ASME, 2013, 135, .	1.1	11
58	Trends and Opportunities in Direct-Absorption Solar Thermal Collectors. Journal of Thermal Science and Engineering Applications, 2013, 5, .	0.8	83
59	Feasibility of nanofluid-based optical filters. Applied Optics, 2013, 52, 1413.	0.9	108
60	Numerical Study of Solar Photovoltaic/Thermal (PV/T) Hybrid Collector Using Nanofluids. , 2013, , .		15
61	Light-Induced Energy Conversion in Liquid Nanoparticle Suspensions. Computational and Physical Processes in Mechanics and Thermal Science, 2012, , 123-142.	0.7	6
62	Socioeconomic impacts of heat transfer research. International Communications in Heat and Mass Transfer, 2012, 39, 1467-1473.	2.9	17
63	Nanofluid-based optical filter optimization for PV/T systems. Light: Science and Applications, 2012, 1, e34-e34.	7.7	247
64	Plasmon-Enhanced Properties of Metallic Nanostructures and Their Application to Direct Solar Absorption Receivers. , 2012, , .		1
65	Temperature Dependent Optical Properties of Nanoparticle Suspensions. , 2012, , .		5
66	Space Cooling Using the Concept of Nanofluids-Based Direct Absorption Solar Collectors. , 2012, , .		2
67	Surface Plasmon Resonance Shifts of a Dispersion of Core-Shell Nanoparticles for Efficient Solar Absorption. , 2012, , .		2
68	Critical Review of the Novel Applications and Uses of Nanofluids. , 2012, , .		12
69	Solar Energy Harvesting Using Nanofluids-Based Concentrating Solar Collector. , 2012, , .		17
70	Solar Energy Harvesting Using Nanofluids-Based Concentrating Solar Collector. Journal of Nanotechnology in Engineering and Medicine, 2012, 3, .	0.8	166
71	Characterization of light-induced, volumetric steam generation in nanofluids. International Journal of Thermal Sciences, 2012, 56, 1-11.	2.6	67
72	Prospects for solar cooling – An economic and environmental assessment. Solar Energy, 2012, 86, 1287-1299.	2.9	174

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73	Classification of Commercial Building Electrical Demand Profiles for Energy Storage Applications. , 2012, , .		1
74	Nanofluid Extinction Coefficients for Photothermal Energy Conversion. , 2011, , .		3
75	Applicability of nanofluids in high flux solar collectors. Journal of Renewable and Sustainable Energy, 2011, 3, .	0.8	297
76	Comparative Economic Analysis of Concentrating Solar Technologies. , 2011, , .		0
77	Nanofluid optical property characterization: towards efficient direct absorption solar collectors. Nanoscale Research Letters, 2011, 6, 225.	3.1	423
78	A hierarchical methodology for the mesoscale assessment of building integrated roof solar energy systems. Renewable Energy, 2011, 36, 2992-3000.	4.3	54
79	Characterization of a Nanofluid Volumetric Solar Absorber / Steam Generator. , 2011, , .		4
80	Band-Gap Tuned Direct Absorption for Hybrid Concentrating Solar Photovoltaic/Thermal System. , 2011, , .		1
81	Enhancing the Heat Transfer in Energy Systems From a Volumetric Approach. , 2011, , .		4
82	Band-Gap Tuned Direct Absorption for a Hybrid Concentrating Solar Photovoltaic/Thermal System. Journal of Solar Energy Engineering, Transactions of the ASME, 2011, 133, .	1.1	60
83	Spatially Varying Extinction Coefficient for Direct Absorption Solar Thermal Collector Optimization. Journal of Solar Energy Engineering, Transactions of the ASME, 2011, 133, .	1.1	45
84	Tuning the Extinction Coefficient for Direct Absorption Solar Thermal Collector Optimization. , 2010, , .		1
85	Enhanced Efficiency in a Coupled Photovoltaic/Thermal Concentrating Solar Collector. , 2010, , .		8
86	Nanofluid-based direct absorption solar collector. Journal of Renewable and Sustainable Energy, 2010, 2, .	0.8	685
87	Parametric analysis of a coupled photovoltaic/thermal concentrating solar collector for electricity generation. Journal of Applied Physics, 2010, 108, .	1.1	48
88	Impact of the Urban Heat Island on Light Duty Vehicle Emissions for the Phoenix, AZ Area. International Journal of Sustainable Transportation, 2010, 4, 1-13.	2.1	10
89	Applicability of Nanofluids in Concentrated Solar Energy Harvesting. , 2010, , .		11
90	Vapor generation in a nanoparticle liquid suspension using a focused, continuous laser. Applied Physics Letters, 2009, 95, .	1.5	48

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91	Optical properties of liquids for direct absorption solar thermal energy systems. Solar Energy, 2009, 83, 969-977.	2.9	379
92	Comparative Environmental and Economic Analysis of Conventional and Nanofluid Solar Hot Water Technologies. Environmental Science & Technology, 2009, 43, 6082-6087.	4.6	152
93	Impact of Size and Scattering Mode on the Optimal Solar Absorbing Nanofluid. , 2009, , .		27
94	Experimental Results for Light-Induced Boiling in Water-Based Graphite Nanoparticle Suspensions. , 2009, , .		2