

# Y Sungtaek Ju

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

102  
papers

3,438  
citations

30  
h-index

56  
g-index

119  
ext. papers

3,944  
ext. citations

4.3  
avg, IF

5.61  
L-index

#	Paper	IF	Citations
102	Desalinating a real hyper-saline pre-treated produced water via direct-heat vacuum membrane distillation.. <i>Water Research</i> , <b>2022</b> , 218, 118503	12.5	1
101	Thermally-driven coalescence in thin liquid film flowing down a fibre. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 916,	3.7	1
100	Conducting thermal energy to the membrane/water interface for the enhanced desalination of hypersaline brines using membrane distillation. <i>Journal of Membrane Science</i> , <b>2021</b> , 626, 119188	9.6	8
99	Experimental study of a string-based counterflow wet electrostatic precipitator for collection of fine and ultrafine particles. <i>Journal of the Air and Waste Management Association</i> , <b>2021</b> , 71, 851-865	2.4	3
98	Capillary-Driven Rise of Well-Wetting Liquid on the Outer Surface of Cylindrical Nozzles. <i>Langmuir</i> , <b>2021</b> , 37, 10413-10423	4	0
97	Three-dimensional characteristics of the jet flows induced by a pitching plate in a quiescent fluid. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 887,	3.7	8
96	Modelling film flows down a fibre influenced by nozzle geometry. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 901,	3.7	5
95	Water vapor capturing using an array of traveling liquid beads for desalination and water treatment. <i>Science Advances</i> , <b>2019</b> , 5, eaav7662	14.3	19
94	Heat Transfer Augmentation Using Scale-Roughened Surfaces for Low-Reynolds Number Flows Generated by Piezoelectric Fans <b>2019</b> ,		1
93	Dynamics of thin liquid films on vertical cylindrical fibres. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 865, 303-327	3.7	13
92	Wake vortex regimes of a pitching cantilever plate in quiescent air and their correlation with mean flow generation. <i>Journal of Fluids and Structures</i> , <b>2019</b> , 84, 408-420	3.1	9
91	A highly effective multi-string humidifier with a low gas stream pressure drop for desalination. <i>Desalination</i> , <b>2019</b> , 449, 92-100	10.3	8
90	Mechanisms of power dissipation in piezoelectric fans and their correlation with convective heat transfer performance. <i>Sensors and Actuators A: Physical</i> , <b>2018</b> , 272, 242-252	3.9	7
89	Thermal conductivity of sintered copper samples prepared using 3D printing-compatible polymer composite filaments. <i>Additive Manufacturing</i> , <b>2018</b> , 24, 479-485	6.1	16
88	Thermohydraulic characteristics of a multi-string direct-contact heat exchanger. <i>International Journal of Heat and Mass Transfer</i> , <b>2018</b> , 126, 536-544	4.9	20
87	Effects of Nozzle Geometry on the Fluid Dynamics of Thin Liquid Films Flowing down Vertical Strings in the Rayleigh-Plateau Regime. <i>Langmuir</i> , <b>2017</b> , 33, 6292-6299	4	20
86	Experimental study of heat transfer between thin liquid films flowing down a vertical string in the Rayleigh-Plateau instability regime and a counterflowing gas stream. <i>International Journal of Heat and Mass Transfer</i> , <b>2017</b> , 108, 830-840	4.9	21

85	Finger-Powered Electro-Digital-Microfluidics. <i>Methods in Molecular Biology</i> , <b>2017</b> , 1572, 293-311	1.4	
84	Highly efficient electrocaloric cooling with electrostatic actuation. <i>Science</i> , <b>2017</b> , 357, 1130-1134	33.3	206
83	Heterogeneous incidence and propagation of spreading depolarizations. <i>Journal of Cerebral Blood Flow and Metabolism</i> , <b>2017</b> , 37, 1748-1762	7.3	26
82	Analysis of thermocapacitive effects in electric double layers under a size modified mean field theory. <i>Applied Physics Letters</i> , <b>2017</b> , 111, 173901	3.4	2
81	Finger-powered electrophoretic transport of discrete droplets for portable digital microfluidics. <i>Lab on A Chip</i> , <b>2016</b> , 16, 2521-31	7.2	5
80	Thermal conductance switching based on the actuation of liquid droplets through the electrowetting on dielectric (EWOD) phenomenon. <i>Applied Thermal Engineering</i> , <b>2016</b> , 98, 189-195	5.8	17
79	Susceptibility of Primary Sensory Cortex to Spreading Depolarizations. <i>Journal of Neuroscience</i> , <b>2016</b> , 36, 4733-43	6.6	31
78	A Combined Experimental and Numerical Modeling Study of the Deformation and Rupture of Axisymmetric Liquid Bridges under Coaxial Stretching. <i>Langmuir</i> , <b>2015</b> , 31, 10173-82	4	14
77	Study of the Fluid Dynamics of Thin Liquid Films Flowing Down a Vertical String With Counterflow of Gas <b>2015</b> ,		2
76	Flow and Heat Transfer in Liquid Films Flowing Over Highly Curved Surfaces <b>2015</b> ,		1
75	Minimum conditions for the induction of cortical spreading depression in brain slices. <i>Journal of Neurophysiology</i> , <b>2014</b> , 112, 2572-9	3.2	36
74	Microchannel cooling device with perforated side walls: Design and modeling. <i>International Journal of Heat and Mass Transfer</i> , <b>2014</b> , 68, 174-183	4.9	10
73	Deployable and Conformal Planar Micro-Devices: Design and Model Validation. <i>Micromachines</i> , <b>2014</b> , 5, 528-546	3.3	0
72	Solid-Liquid Hybrid Thermal Interfaces for Low-Contact Pressure Thermal Switching. <i>Journal of Heat Transfer</i> , <b>2014</b> , 136,	1.8	12
71	Development of High Temperature Liquid Metal Heat Transfer Fluids for CSP Applications <b>2014</b> ,		1
70	A tunable hemispherical platform for non-stretching curved flexible electronics and optoelectronics. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 044508	2.5	4
69	Characterization of the electrocaloric effect and hysteresis loss in relaxor ferroelectric thin films under alternating current bias fields. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 251913	3.4	3
68	EWOD (electrowetting on dielectric) digital microfluidics powered by finger actuation. <i>Lab on A Chip</i> , <b>2014</b> , 14, 1117-22	7.2	42

67	Direct characterization of the electrocaloric effects in thin films supported on substrates. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 042903	3.4	15
66	Copper-based conductive composites with tailored thermal expansion. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2013</b> , 5, 10966-74	9.5	36
65	Planar vapor chamber with hybrid evaporator wicks for the thermal management of high-heat-flux and high-power optoelectronic devices. <i>International Journal of Heat and Mass Transfer</i> , <b>2013</b> , 60, 163-169	4.9	78
64	A comparative study of the morphology and wetting characteristics of micro/nanostructured Cu surfaces for phase change heat transfer applications. <i>Journal of Adhesion Science and Technology</i> , <b>2013</b> , 27, 2163-2176	2	102
63	Pyroelectric energy harvesting using liquid-based switchable thermal interfaces. <i>Sensors and Actuators A: Physical</i> , <b>2013</b> , 189, 100-107	3.9	36
62	Microscale liquid-based mechanical elements for multifunctional integration. <i>Journal of Composite Materials</i> , <b>2013</b> , 47, 65-75	2.7	1
61	High-power density pyroelectric energy harvesters incorporating switchable liquid-based thermal interfaces <b>2012</b> ,		5
60	Micro-post evaporator wicks with improved phase change heat transfer performance. <i>International Journal of Heat and Mass Transfer</i> , <b>2012</b> , 55, 6163-6169	4.9	18
59	Electric field dependence of the Curie temperature of ferroelectric poly(vinylidene fluoride-trifluoroethylene) co-polymers for pyroelectric energy harvesting. <i>Smart Materials and Structures</i> , <b>2012</b> , 21, 022001	3.4	13
58	Switchable Thermal Interfaces Based on Discrete Liquid Droplets. <i>Micromachines</i> , <b>2012</b> , 3, 10-20	3.3	11
57	A solid-state refrigerator based on the electrocaloric effect. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 242901	3.4	123
56	Metal-Matrix Nanocomposites with Tailored Coefficients of Thermal Expansion for Improved Thermomechanical Reliability. <i>Journal of Electronic Materials</i> , <b>2012</b> , 41, 1020-1023	1.9	8
55	Cortical sensory plasticity in a model of migraine with aura. <i>Journal of Neuroscience</i> , <b>2012</b> , 32, 15252-61	6.6	28
54	An innovative passive cooling method for high performance light-emitting diodes <b>2012</b> ,		10
53	Nanostructured c-post wicks for advanced heat pipes <b>2011</b> ,		3
52	Development and characterization of a microfluidic chamber incorporating fluid ports with active suction for localized chemical stimulation of brain slices. <i>Lab on A Chip</i> , <b>2011</b> , 11, 2247-54	7.2	29
51	Single bubble dynamics on a superhydrophilic surface with artificial nucleation sites. <i>International Journal of Heat and Mass Transfer</i> , <b>2011</b> , 54, 1572-1577	4.9	83
50	Multi-artery heat-pipe spreader: Lateral liquid supply. <i>International Journal of Heat and Mass Transfer</i> , <b>2011</b> , 54, 2334-2340	4.9	54

49	Characterization and Modeling of the Heat Transfer Performance of Nanostructured Cu Micropost Wicks. <i>Journal of Heat Transfer</i> , <b>2011</b> , 133,	1.8	68
48	An Investigation of a Tunable Magnetomechanical Thermal Switch. <i>Journal of Heat Transfer</i> , <b>2011</b> , 133,	1.8	18
47	Experimental characterization of thermal conductance switching in magnetorheological fluids. <i>Journal of Applied Physics</i> , <b>2010</b> , 107, 09B505	2.5	22
46	Solid-State Refrigeration Based on the Electrocaloric Effect for Electronics Cooling. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , <b>2010</b> , 132,	2	66
45	Fabrication and Characterization of the Capillary Performance of Superhydrophilic Cu Micropost Arrays. <i>Journal of Microelectromechanical Systems</i> , <b>2010</b> , 19, 581-588	2.5	98
44	Multi-artery heat pipe spreader: Experiment. <i>International Journal of Heat and Mass Transfer</i> , <b>2010</b> , 53, 2662-2669	4.9	90
43	Multifunctional integration of thin-film silicon solar cells on carbon-fiber-reinforced epoxy composites. <i>Solar Energy</i> , <b>2010</b> , 84, 450-458	6.8	18
42	A Coupled Thermal and Mechanical Model of a Thermal Energy Harvesting Device <b>2009</b> ,		9
41	On-chip characterization of the mass diffusivity of binary mixtures using Brownian microscopy. <i>Sensors and Actuators A: Physical</i> , <b>2009</b> , 155, 39-46	3.9	
40	Reversible thermal interfaces based on microscale dielectric liquid layers. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 211904	3.4	28
39	Experimental and Numerical Study of Single Bubble Dynamics on a Hydrophobic Surface. <i>Journal of Heat Transfer</i> , <b>2009</b> , 131,	1.8	84
38	A Tunable Magnetomechanical Thermal Switch for Thermal Management Purposes <b>2009</b> ,		2
37	Thermal switches based on coplanar EWOD for satellite thermal control. <i>Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS)</i> , <b>2008</b> ,		2
36	Brownian Microscopy for Simultaneous In Situ Measurements of the Viscosity and Velocity Fields in Steady Laminar Microchannel Flows. <i>Journal of Microelectromechanical Systems</i> , <b>2008</b> , 17, 1135-1143	2.5	2
35	Comparative Study of Copper Oxidation Schemes and Their Effects on Surface Wettability <b>2008</b> ,		11
34	Impact of Interface Resistance on Pulsed Thermoelectric Cooling. <i>Journal of Heat Transfer</i> , <b>2008</b> , 130,	1.8	15
33	Experimental Study of Heat Conduction in Aqueous Suspensions of Aluminum Oxide Nanoparticles. <i>Journal of Heat Transfer</i> , <b>2008</b> , 130,	1.8	30
32	Bubble nucleation on hydrophobic islands provides evidence to anomalously high contact angles of nanobubbles. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 103115	3.4	59

31	Thermal patterning of amorphous fluoropolymer layers. <i>Sensors and Actuators A: Physical</i> , <b>2008</b> , 148, 111-114	3.9	
30	Experimental Study of Heat Conduction in Aqueous Suspensions of Aluminum Oxide Nanoparticles <b>2007</b> ,		1
29	Process dependence of the thermal conductivity of image reversal photoresist layers. <i>Journal of Vacuum Science &amp; Technology B</i> , <b>2007</b> , 25, 224		3
28	Experimental and Numerical Study of Single Bubble Dynamics on a Hydrophobic Surface <b>2007</b> , 301		
27	Single Bubble Dynamics on a Hydrophobic Surface <b>2007</b> , 687		1
26	Nanoscale Heat Conduction Across Metal-Dielectric Interfaces. <i>Journal of Heat Transfer</i> , <b>2006</b> , 128, 919-925	3.5	33
25	Exploration of thermolithography for micro- and nanomanufacturing. <i>Applied Physics Letters</i> , <b>2006</b> , 88, 123110	3.4	10
24	Heat conduction in graphite-nanoplatelet-reinforced polymer nanocomposites. <i>Applied Physics Letters</i> , <b>2006</b> , 89, 023117	3.4	137
23	Analysis and Experimental Characterization of Statistical Errors in Brownian Microscopy <b>2006</b> ,		1
22	Phonon heat transport in silicon nanostructures. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 153106	3.4	85
21	Impact of Nonequilibrium Between Electrons and Phonons on Heat Transfer in Metallic Nanoparticles Suspended in Dielectric Media. <i>Journal of Heat Transfer</i> , <b>2005</b> , 127, 1400-1402	1.8	20
20	Nanoscale Heat Conduction Across Metal-Dielectric Interfaces <b>2005</b> , 205		1
19	Nanoscale heat conduction across tunnel junctions. <i>Applied Physics Letters</i> , <b>2005</b> , 86, 203113	3.4	21
18	Micro- and nanoscale thermal phenomena in thin-film magnetic recording heads. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2005</b> , 23, 1276-1283	2.9	1
17	Patterning damage in narrow trackwidth spin-valve sensors. <i>Applied Physics Letters</i> , <b>2003</b> , 83, 401-403	3.4	14
16	Thermal engineering of giant magnetoresistive (GMR) sensors: alternative dielectric gap. <i>IEEE Transactions on Magnetics</i> , <b>2002</b> , 38, 2259-2261	2	4
15	Head protrusion and its implications on head-disk interface reliability. <i>IEEE Transactions on Magnetics</i> , <b>2001</b> , 37, 1842-1844	2	24
14	Sub-Continuum Simulations of Heat Conduction in Silicon-on-Insulator Transistors. <i>Journal of Heat Transfer</i> , <b>2001</b> , 123, 130-137	1.8	107

13	A combined experimental and numerical study of temperature rise in GMR sensors due to self-heating. <i>IEEE Transactions on Magnetics</i> , <b>2001</b> , 37, 1701-1703	2	11
12	Thermal Conduction and Viscous Heating in Microscale Couette Flows. <i>Journal of Heat Transfer</i> , <b>2000</b> , 122, 817-818	1.8	24
11	Study of interface effects in thermoelectric microrefrigerators. <i>Journal of Applied Physics</i> , <b>2000</b> , 88, 4135-4145	2.5	31
10	Process-dependent thermal transport properties of silicon-dioxide films deposited using low-pressure chemical vapor deposition. <i>Journal of Applied Physics</i> , <b>1999</b> , 85, 7130-7134	2.5	55
9	Thermal characterization of anisotropic thin dielectric films using harmonic Joule heating. <i>Thin Solid Films</i> , <b>1999</b> , 339, 160-164	2.2	75
8	HEAT CONDUCTION IN NOVEL ELECTRONIC FILMS. <i>Annual Review of Materials Research</i> , <b>1999</b> , 29, 261-293		129
7	Phonon scattering in silicon films with thickness of order 100 nm. <i>Applied Physics Letters</i> , <b>1999</b> , 74, 3005-3007	3.0	489
6	INTRINSIC-CARRIER THERMAL RUNAWAY IN SILICON MICROCANTILEVERS. <i>Microscale Thermophysical Engineering</i> , <b>1999</b> , 3, 217-228		52
5	Low-stiffness silicon cantilevers with integrated heaters and piezoresistive sensors for high-density AFM thermomechanical data storage. <i>Journal of Microelectromechanical Systems</i> , <b>1998</b> , 7, 69-78	2.5	129
4	THERMAL CHARACTERIZATION OF IC PASSIVATION LAYERS USING JOULE HEATING AND OPTICAL THERMOMETRY. <i>Microscale Thermophysical Engineering</i> , <b>1998</b> , 2, 101-110		10
3	Short-Time-Scale Thermal Mapping of Microdevices Using a Scanning Thermoreflectance Technique. <i>Journal of Heat Transfer</i> , <b>1998</b> , 120, 306-313	1.8	47
2	Thermal mapping of interconnects subjected to brief electrical stresses. <i>IEEE Electron Device Letters</i> , <b>1997</b> , 18, 512-514	4.4	21
1	Short-timescale thermal mapping of semiconductor devices. <i>IEEE Electron Device Letters</i> , <b>1997</b> , 18, 169-171	4.1	29