

# Seong Hyuk Lee

## List of Publications by Year in descending order

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109  
papers

1,513  
citations

394421

19  
h-index

361022

35  
g-index

109  
all docs

109  
docs citations

109  
times ranked

1544  
citing authors

#	ARTICLE	IF	CITATIONS
1	Evaporating characteristics of sessile droplet on hydrophobic and hydrophilic surfaces. <i>Microelectronic Engineering</i> , 2009, 86, 1350-1353.	2.4	140
2	Spectral and Angular Responses of Surface Plasmon Resonance Based on the Kretschmann Prism Configuration. <i>Materials Transactions</i> , 2010, 51, 1150-1155.	1.2	137
3	Dynamic Wetting and Spreading Characteristics of a Liquid Droplet Impinging on Hydrophobic Textured Surfaces. <i>Langmuir</i> , 2011, 27, 6565-6573.	3.5	106
4	Design and optimization of rotating triboelectric nanogenerator by water electrification and inertia. <i>Nano Energy</i> , 2016, 27, 340-351.	16.0	81
5	Dynamic wetting and heat transfer characteristics of a liquid droplet impinging on heated textured surfaces. <i>International Journal of Heat and Mass Transfer</i> , 2016, 97, 308-317.	4.8	63
6	Direct-current triboelectric nanogenerator via water electrification and phase control. <i>Nano Energy</i> , 2018, 52, 95-104.	16.0	50
7	Spreading and receding characteristics of a non-Newtonian droplet impinging on a heated surface. <i>Experimental Thermal and Fluid Science</i> , 2014, 57, 94-101.	2.7	40
8	Cylindrical Water Triboelectric Nanogenerator via Controlling Geometrical Shape of Anodized Aluminum for Enhanced Electrostatic Induction. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 25014-25018.	8.0	40
9	Effect of Electrolyte Thickness on Electrochemical Reactions and Thermo-Fluidic Characteristics inside a SOFC Unit Cell. <i>Energies</i> , 2018, 11, 473.	3.1	38
10	Wetting Transition Characteristics on Microstructured Hydrophobic Surfaces. <i>Materials Transactions</i> , 2010, 51, 1709-1711.	1.2	37
11	NUMERICAL ANALYSIS ON HEAT TRANSFER CHARACTERISTICS OF A SILICON FILM IRRADIATED BY PICO-TO FEMTOSECOND PULSE LASERS. <i>Numerical Heat Transfer; Part A: Applications</i> , 2003, 44, 833-850.	2.1	36
12	Comparison of Theoretical Models of Electron-Phonon Coupling in Thin Gold Films Irradiated by Femtosecond Pulse Lasers. <i>Materials Transactions</i> , 2011, 52, 547-553.	1.2	34
13	The evaporation and wetting dynamics of sessile water droplets on submicron-scale patterned silicon hydrophobic surfaces. <i>Journal of Micromechanics and Microengineering</i> , 2010, 20, 055021.	2.6	31
14	Characteristics of solderable electrically conductive adhesives (ECAs) for electronic packaging. <i>Microelectronics Reliability</i> , 2012, 52, 1165-1173.	1.7	30
15	Local aggregation characteristics of a nanofluid droplet during evaporation. <i>International Journal of Heat and Mass Transfer</i> , 2014, 72, 336-344.	4.8	27
16	Dynamic Behavior of Non-Newtonian Droplets Impinging on Solid Surfaces. <i>Materials Transactions</i> , 2013, 54, 260-265.	1.2	23
17	The thermal conductivity of Al(OH) <sub>3</sub> covered MWCNT/epoxy terminated dimethyl polysiloxane composite based on analytical Al(OH) <sub>3</sub> covered MWCNT. <i>Composites Part A: Applied Science and Manufacturing</i> , 2013, 54, 159-165.	7.6	21
18	Influence of Perforated Fin on Flow Characteristics and Thermal Performance in Spiral Finned-Tube Heat Exchanger. <i>Energies</i> , 2019, 12, 556.	3.1	21

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19	Hybrid Interconnection Process Using Solderable ICAs (Isotropic Conductive Adhesives) with Low-Melting-Point Alloy Fillers. <i>Materials Transactions</i> , 2009, 50, 2649-2655.	1.2	20
20	Femtosecond Laser Pulse Train Effect on Optical Characteristics and Nonequilibrium Heat Transfer in Thin Metal Films. <i>Materials Transactions</i> , 2010, 51, 1156-1162.	1.2	19
21	Reliability Properties of Solderable Conductive Adhesives with Low-Melting-Point Alloy Fillers. <i>Materials Transactions</i> , 2012, 53, 2104-2110.	1.2	18
22	An experimental and numerical study on thermal performance of a regenerator system with ceramic honeycomb. <i>Journal of Mechanical Science and Technology</i> , 2001, 15, 357-365.	0.4	17
23	In-situ observation of phase transformation in amorphous silicon during Joule-heating induced crystallization process. <i>Thin Solid Films</i> , 2011, 519, 5516-5522.	1.8	17
24	Quantitative analysis of contact line behaviors of evaporating binary mixture droplets using surface plasmon resonance imaging. <i>International Journal of Heat and Mass Transfer</i> , 2021, 165, 120690.	4.8	17
25	Femtosecond pulse laser interactions with thin silicon films and crater formation considering optical phonons and wave interference. <i>Microsystem Technologies</i> , 2008, 14, 1439-1446.	2.0	15
26	A numerical study on ultra-short pulse laser-induced damage on dielectrics using the Fokker-Planck equation. <i>International Journal of Heat and Mass Transfer</i> , 2006, 49, 1493-1500.	4.8	13
27	Thermal Boundary Resistance Effect on Non-Equilibrium Energy Transport in Metal-Dielectric Thin Films Heated by Femtosecond Pulse Lasers. <i>Materials Transactions</i> , 2011, 52, 1492-1499.	1.2	13
28	Dynamic contact angle and liquid displacement of a droplet impinging on heated textured surfaces. <i>Experimental Thermal and Fluid Science</i> , 2019, 101, 128-135.	2.7	13
29	Development of automated angle-scanning, high-speed surface plasmon resonance imaging and SPRI visualization for the study of dropwise condensation. <i>Experiments in Fluids</i> , 2020, 61, 1.	2.4	13
30	Selective evaporation rate modeling of volatile binary mixture droplets. <i>International Journal of Heat and Mass Transfer</i> , 2021, 178, 121584.	4.8	13
31	Local heating effect on thermal Marangoni flow and heat transfer characteristics of an evaporating droplet. <i>International Journal of Heat and Mass Transfer</i> , 2022, 195, 123206.	4.8	13
32	Thermal deformation of glass backplanes during Joule-heating induced crystallization process. <i>Vacuum</i> , 2011, 85, 847-852.	3.5	12
33	A novel miniature dynamic microfluidic cell culture platform using electro-osmosis diode pumping. <i>Biomicrofluidics</i> , 2014, 8, 044116.	2.4	12
34	Dynamic behavior of capillary-driven encapsulation flow characteristics for different injection types in flip chip packaging. <i>Journal of Mechanical Science and Technology</i> , 2014, 28, 167-173.	1.5	12
35	Development and application of a new spray impingement model considering film formation in a diesel engine. <i>Journal of Mechanical Science and Technology</i> , 2001, 15, 951-961.	0.4	11
36	A numerical study on the spray-to-spray impingement system. <i>Journal of Mechanical Science and Technology</i> , 2002, 16, 235-245.	0.4	11

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37	Three Temperature Model for Nonequilibrium Energy Transfer in Semiconductor Films Irradiated with Short Pulse Lasers. <i>Materials Transactions</i> , 2006, 47, 2835-2841.	1.2	11
38	Numerical investigation of LNG gas dispersion in a confined space: An engineering model. <i>Journal of Mechanical Science and Technology</i> , 2017, 31, 4533-4540.	1.5	11
39	Quantitative measurements of nanoscale thin frost layers using surface plasmon resonance imaging. <i>International Journal of Heat and Mass Transfer</i> , 2018, 124, 83-89.	4.8	11
40	Observation of a mixed regime for an impinging droplet on a sessile droplet. <i>International Journal of Heat and Mass Transfer</i> , 2018, 127, 130-135.	4.8	11
41	Three-dimensional turbulent flow and heat transfer characteristics of longitudinal vortices embedded in turbulent boundary layer in bent channels. <i>International Journal of Heat and Mass Transfer</i> , 2018, 117, 958-965.	4.8	9
42	Modeling of the finite boundary limit of evaporation flux in the contact line region using the surface plasmon resonance imaging. <i>International Communications in Heat and Mass Transfer</i> , 2020, 116, 104598.	5.6	9
43	Comparison of Spray/Wall Impingement Models with Experimental Data. <i>Journal of Propulsion and Power</i> , 2000, 16, 939-945.	2.2	8
44	Dynamic Filling Characteristics of a Capillary Driven Underfill Process in Flip-Chip Packaging. <i>Materials Transactions</i> , 2011, 52, 1998-2003.	1.2	8
45	Visualization of an Evaporating Thin Layer during the Evaporation of a Nanofluid Droplet. <i>Langmuir</i> , 2015, 31, 1237-1241.	3.5	8
46	Characteristics of heat transfer and chemical reaction of methane-steam reforming in a porous catalytic medium. <i>Journal of Mechanical Science and Technology</i> , 2016, 30, 473-481.	1.5	8
47	Sputtered Nanoporous PtNi Thin Film Cathodes with Improved Thermal Stability for Low Temperature Solid Oxide Fuel Cells. <i>Electrochimica Acta</i> , 2017, 247, 558-563.	5.2	8
48	SURFACE PLASMON RESONANCE IMAGING OF DROP COALESCENCE AT HIGH-TEMPORAL RESOLUTION. <i>Journal of Flow Visualization and Image Processing</i> , 2018, 25, 191-205.	0.5	8
49	Numerical Analysis of Electronic Transport Characteristics in Dielectrics Irradiated by Ultrashort Pulsed Laser Using the Nonlocal Fokker-Planck Equation. <i>Numerical Heat Transfer; Part A: Applications</i> , 2005, 48, 59-76.	2.1	7
50	The Effect of Adsorbed Volatile Organic Compounds on an Ultrathin Water Film Measurement. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 5981.	2.5	7
51	Numerical study on subcooled water jet impingement cooling on superheated surfaces. <i>Case Studies in Thermal Engineering</i> , 2022, 32, 101883.	5.7	7
52	Modeling of diesel spray impingement on a flat wall. <i>Journal of Mechanical Science and Technology</i> , 2000, 14, 796-806.	0.4	6
53	Nonequilibrium heat transfer characteristics during ultrafast pulse laser heating of a silicon microstructure. <i>Journal of Mechanical Science and Technology</i> , 2005, 19, 1378-1389.	1.5	6
54	Numerical Investigation of Opto-Energy Phenomena in Thin Gold Films Irradiated by Femtosecond Pulse Laser Considering Quantum Effects. <i>Numerical Heat Transfer; Part A: Applications</i> , 2008, 54, 279-292.	2.1	6

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55	Self-Organized Interconnection Process Using Solderable ACA (Anisotropic Conductive Adhesive). <i>Materials Transactions</i> , 2009, 50, 1684-1689.	1.2	6
56	Dynamic characteristics of droplet impingement on microscale hole-patterned surfaces with anodization. <i>International Communications in Heat and Mass Transfer</i> , 2021, 124, 105260.	5.6	6
57	Numerical evaluation on surface temperature uniformity of multi-zone and single-zone ceramic heaters with the electrostatic chuck. <i>Journal of Mechanical Science and Technology</i> , 2021, 35, 3763-3770.	1.5	6
58	Review of the binary mixture droplet evaporation studies. <i>Journal of Mechanical Science and Technology</i> , 2021, 35, 5259-5272.	1.5	6
59	Numerical analysis of crater formation and ablation depth in thin silicon films heated by ultrashort pulse train lasers. <i>Journal of Mechanical Science and Technology</i> , 2007, 21, 1847.	1.5	5
60	Wave Interference Effect in Thin Film Structures under Pulsed Laser Irradiation. <i>Materials Transactions</i> , 2008, 49, 1880-1888.	1.2	5
61	Flattening Characteristics of Ni<SUB>20</SUB>/Cr Thermal-Sprayed Coating Layers on Preheated SCM415 Substrates. <i>Materials Transactions</i> , 2011, 52, 1515-1521.	1.2	5
62	Effect of Flame Spray Distance on the Adhesive Characteristics of Ni&ndash;20 mass%Cr Layers on SCM415 Substrates. <i>Materials Transactions</i> , 2012, 53, 2043-2048.	1.2	5
63	Effect of crack size on gas leakage characteristics in a confined space. <i>Journal of Mechanical Science and Technology</i> , 2016, 30, 3411-3419.	1.5	5
64	Numerical Simulation of Propagation Characteristics of Hazardous Noxious Substances Spilled from Transport Ships. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 2409.	2.5	5
65	Numerical study on flow and heat transfer characteristics of air-jet cooling system. <i>Journal of Mechanical Science and Technology</i> , 2018, 32, 6021-6027.	1.5	5
66	Modeling of the evaporation rate of liquid droplets on anodized heated surfaces. <i>International Communications in Heat and Mass Transfer</i> , 2018, 98, 209-215.	5.6	5
67	Local mass flux and pinning behavior of an evaporating droplet on heated aluminum surfaces. <i>Case Studies in Thermal Engineering</i> , 2021, 26, 101171.	5.7	5
68	Modelling of Wall Films Formed by Impinging Diesel Sprays. , 2001, , .		4
69	Fokker-Planck Approach to Laser-Induced Damage in Dielectrics with Subpicosecond Pulses. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2006, 10, 217-232.	2.6	4
70	Characteristics of Sn-2.5Ag flip chip solder joints under thermal shock test conditions. <i>Journal of Mechanical Science and Technology</i> , 2009, 23, 435-441.	1.5	4
71	Frosting Characteristics on Hydrophilic and Superhydrophobic Copper Surfaces. <i>Journal of Heat Transfer</i> , 2016, 138, .	2.1	4
72	High Speed SPR Visualization of Frost Propagation Inside a Subcooled Water Droplet. <i>Journal of Heat Transfer</i> , 2017, 139, .	2.1	4

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73	Mechanical model of an arched basilar membrane in the gerbil cochlea. <i>Hearing Research</i> , 2017, 345, 1-9.	2.0	4
74	SDC-Infiltrated Microporous Silver Membrane with Superior Resistance to Thermal Agglomeration for Cathode-Supported Solid Oxide Fuel Cells. <i>Energies</i> , 2018, 11, 2181.	3.1	4
75	Effect of Secondary Vortex Flow Near Contact Point on Thermal Performance in the Plate Heat Exchanger with Different Corrugation Profiles. <i>Energies</i> , 2020, 13, 1328.	3.1	4
76	Numerical analysis of the close-contact heat transfer of the electro-thermal drilling probes for glacier-ice exploration. <i>Journal of Mechanical Science and Technology</i> , 2021, 35, 1309-1317.	1.5	4
77	Comparison of two-equation model and reynolds stress models with experimental data for the three-dimensional turbulent boundary layer in a 30 degree bend. <i>Journal of Mechanical Science and Technology</i> , 2000, 14, 93-102.	0.4	3
78	Characteristics of Thermosonic Anisotropic Conductive Adhesives (ACFs) Flip-Chip Bonding. <i>Materials Transactions</i> , 2010, 51, 1790-1795.	1.2	3
79	Condensation Frosting Characteristics of SAM-Coated Nanostructured Superhydrophobic Surface. <i>International Journal of Air-Conditioning and Refrigeration</i> , 2018, 26, 1850008.	0.7	3
80	Solid-Liquid Interface Temperature Measurement of Evaporating Droplet Using Thermoresponsive Polymer Aqueous Solution. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 3379.	2.5	3
81	Surface Plasmon Resonance Imaging: A Technique to Reveal the Dropwise Condensation Mechanism. <i>Journal of Heat Transfer</i> , 2020, 142, .	2.1	3
82	Evaluation of surface temperature uniformity of multi-zone ceramic heaters with embedded cooling channels for electrostatic chuck. <i>Journal of Mechanical Science and Technology</i> , 2022, 36, 1599-1606.	1.5	3
83	Optical Characteristics and Nanoscale Energy Transport in Thin Film Structures Irradiated by Nanosecond-to-Femtosecond Lasers. <i>Materials Transactions</i> , 2008, 49, 2521-2527.	1.2	2
84	A rebounding droplet impacting on a static droplet. <i>Journal of Heat Transfer</i> , 2015, 137, .	2.1	2
85	Effect of spanwise pressure gradient on flow and heat transfer characteristics of longitudinal vortices embedded in a turbulent boundary layer. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 867-875.	1.5	2
86	Effect of Wettability on Pool Boiling Incipience in Saturated Water. <i>Journal of Heat Transfer</i> , 2016, 138, .	2.1	2
87	Numerical Study on Gaseous CO2 Leakage and Thermal Characteristics of Containers in a Transport Ship. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 2536.	2.5	2
88	Effect of Laser-derived Surface Re-melting of YSZ Electrolyte on Performance of Solid Oxide Fuel Cells. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2019, 6, 235-239.	4.9	2
89	Quantitative measurements of nanoparticle layer thicknesses near the contact line region after droplet drying-out. <i>Journal of Mechanical Science and Technology</i> , 2019, 33, 967-971.	1.5	2
90	Three-temperature modeling of carrier-phonon interactions in thin GaAs film structures irradiated by picosecond pulse lasers. <i>Journal of Mechanical Science and Technology</i> , 2006, 20, 1292-1301.	1.5	1

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91	Numerical Investigation on Self-Organized Interconnection Using Anisotropic Conductive Adhesive with Low Melting Point Alloy Filler. Materials Transactions, 2008, 49, 2572-2578.	1.2	1
92	Numerical Analysis of Coalescence Characteristics of Low Melting Point Alloy Fillers Using a Non-Equilibrium Phase Field Model. Materials Transactions, 2009, 50, 1678-1683.	1.2	1
93	Dependency of Condensation Forms on Wettability. Journal of Heat Transfer, 2014, 136, .	2.1	1
94	Effects of Secondary Air Flows on Thermal Characteristics and Particle Behavior in Flame Spray Process. Materials Transactions, 2014, 55, 850-856.	1.2	1
95	Evaporative Characteristics of Al <sub>2</sub> O <sub>3</sub> Nanofluid Droplet on Heated Surface. Journal of Heat Transfer, 2016, 138, .	2.1	1
96	Numerical Investigation on Influence of Fan Speed and Swirling Gas Injection on Thermal-Flow Characteristics in Nitrocarburizing Furnace. Materials Transactions, 2017, 58, 1322-1328.	1.2	1
97	Numerical analysis of injected current effects on thermal characteristics of vertical-cavity surface-emitting laser. Journal of Mechanical Science and Technology, 2018, 32, 1463-1469.	1.5	1
98	CFD-Based Metamodeling of the Propagation Distribution of Styrene Spilled from a Ship. Applied Sciences (Switzerland), 2020, 10, 2109.	2.5	1
99	Numerical Investigation on the Evolution of Thin Liquid Layer and Dynamic Behavior of an Electro-Thermal Drilling Probe during Close-Contact Heat Transfer. Applied Sciences (Switzerland), 2021, 11, 3443.	2.5	1
100	Femtosecond Laser Pulse Train Effects on Optical Characteristics and Nonequilibrium Energy Transport in Metal Thin Films Considering Quantum Effects. , 2007, , .		1
101	Wetting Characteristic of Single Droplet Impinging on Hole-Patterned Texture Surfaces. Journal of ILASS-Korea, 2015, 20, 181-186.	0.1	1
102	Characteristics for Nanofluid Droplet Evaporation on Heated Surface at Boiling Temperature of Base Liquid. Journal of ILASS-Korea, 2015, 20, 236-240.	0.1	1
103	Numerical Study on Effective Thermal Conductivity of Radial Nanowire Heterostructures with MWCNT Core. Materials Transactions, 2014, 55, 1770-1776.	1.2	0
104	Visualization in the Contact Line Region of an Evaporating Nanofluid Drop. Journal of Heat Transfer, 2014, 136, .	2.1	0
105	Effects of Curvature on the Flow Characteristics and Particle Behavior in the Flame Spray Process. Materials Transactions, 2015, 56, 2070-2077.	1.2	0
106	Characteristics of Droplet Growth Behavior on Hydrophobic Micro-textured Surfaces. Journal of Heat Transfer, 2015, 137, .	2.1	0
107	Near-field leakage and diffusion characteristics of Hazardous and Noxious Substance. , 2016, , .		0
108	Observations of internal flow inside an evaporating nanofluid sessile droplet in the presence of an entrapped air bubble. Scientific Reports, 2016, 6, 32767.	3.3	0

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109	Numerical study of the boiling heat transfer characteristics of bluff body quenching in cylindrical tube. <i>Case Studies in Thermal Engineering</i> , 2022, 32, 101900.	5.7	0