

# Dong Rip Kim

## List of Publications by Year in descending order

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95  
papers

4,963  
citations

117625

34  
h-index

95266

68  
g-index

97  
all docs

97  
docs citations

97  
times ranked

6828  
citing authors

#	ARTICLE	IF	CITATIONS
1	Visibly Clear Radiative Cooling Metamaterials for Enhanced Thermal Management in Solar Cells and Windows. <i>Advanced Functional Materials</i> , 2022, 32, 2105882.	14.9	51
2	Optical investigation of cryogenic frost formation under forced convection. <i>Applied Thermal Engineering</i> , 2022, 202, 117887.	6.0	10
3	Enhanced thermal performance of phase change material-integrated fin-type heat sinks for high power electronics cooling. <i>International Journal of Heat and Mass Transfer</i> , 2022, 184, 122257.	4.8	21
4	Investigating the role of metals loaded on nitrogen-doped carbon-nanotube electrodes in electroenzymatic alcohol dehydrogenation. <i>Applied Catalysis B: Environmental</i> , 2022, 307, 121195.	20.2	11
5	Biodegradable silicon nanoneedles for ocular drug delivery. <i>Science Advances</i> , 2022, 8, eabn1772.	10.3	31
6	Frost formation from general-low to ultra-low temperatures: A review. <i>International Journal of Heat and Mass Transfer</i> , 2022, 195, 123164.	4.8	12
7	Modeling of frost growth and fog generation at ultra-low temperatures. <i>International Journal of Heat and Mass Transfer</i> , 2021, 166, 120741.	4.8	9
8	Acetogenic bacteria utilize light-driven electrons as an energy source for autotrophic growth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	47
9	Controlled Integration of Interconnected Pores under Polymeric Surfaces for Low Adhesion and Antiscalming Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 13684-13692.	8.0	10
10	Frost growth mechanism and its behavior under ultra-low temperature conditions. <i>International Journal of Heat and Mass Transfer</i> , 2021, 169, 120941.	4.8	28
11	Replicable Quasi-Three-Dimensional Plasmonic Nanoantennas for Infrared Bandpass Filtering. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 24024-24031.	8.0	4
12	Rapid custom prototyping of soft poroelastic biosensor for simultaneous epicardial recording and imaging. <i>Nature Communications</i> , 2021, 12, 3710.	12.8	24
13	Power optimization for defrosting heaters in household refrigerators to reduce energy consumption. <i>Energy Conversion and Management</i> , 2021, 237, 114127.	9.2	7
14	Genome-Scale Analysis of <i>Acetobacterium woodii</i> Identifies Translational Regulation of Acetogenesis. <i>MSystems</i> , 2021, 6, e0069621.	3.8	8
15	High quality GaN tetrapodal structures hetero-integrated on 3D Si surfaces. <i>Applied Surface Science</i> , 2021, 565, 150584.	6.1	1
16	Frost layer growth behavior on ultra-low temperature surface with a superhydrophobic coating. <i>International Communications in Heat and Mass Transfer</i> , 2021, 128, 105641.	5.6	9
17	Numerical modeling and experimental validation of a phase change material-based compact cascade cooling system for enhanced thermal management. <i>Applied Thermal Engineering</i> , 2020, 164, 114470.	6.0	19
18	Cooling performance and space efficiency improvement based on heat sink arrangement for power conversion electronics. <i>Applied Thermal Engineering</i> , 2020, 164, 114458.	6.0	11

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19	Enhanced thermal performance of lithium nitrate phase change material by porous copper oxide nanowires integrated on folded meshes for high temperature heat storage. <i>Chemical Engineering Journal</i> , 2020, 391, 123613.	12.7	13
20	Layer-by-layer assembled phase change composite with paraffin for heat spreader with enhanced cooling capacity. <i>Energy Conversion and Management</i> , 2020, 204, 112287.	9.2	6
21	Frost modeling under cryogenic conditions. <i>International Journal of Heat and Mass Transfer</i> , 2020, 161, 120250.	4.8	25
22	Bactericidal Lubricating Synthetic Materials for Three-Dimensional Additive Assembly with Controlled Mechanical Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 26464-26475.	8.0	3
23	Bioresorbable, Miniaturized Porous Silicon Needles on a Flexible Water-Soluble Backing for Unobtrusive, Sustained Delivery of Chemotherapy. <i>ACS Nano</i> , 2020, 14, 7227-7236.	14.6	50
24	3D Printed Bioresponsive Devices with Selective Permeability Inspired by Eggshell Membrane for Effective Biochemical Conversion. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 30112-30119.	8.0	5
25	Evaluation of thermomechanical behaviors of UO <sub>2</sub> -5 vol% Mo nuclear fuel pellets with sandwiched configuration. <i>Journal of Nuclear Materials</i> , 2020, 539, 152295.	2.7	6
26	Enhanced water collection of bio-inspired functional surfaces in high-speed flow for high performance demister. <i>Desalination</i> , 2020, 479, 114314.	8.2	14
27	Adaptive Laboratory Evolution of <i>Eubacterium limosum</i> ATCC 8486 on Carbon Monoxide. <i>Frontiers in Microbiology</i> , 2020, 11, 402.	3.5	44
28	Functional cooperation of the glycine synthase-reductase and Wood-Werkman pathways for autotrophic growth of <i>Clostridium drakei</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 7516-7523.	7.1	88
29	Recent progress on developing anti-frosting and anti-fouling functional surfaces for air source heat pumps. <i>Energy and Buildings</i> , 2020, 223, 110139.	6.7	20
30	Genome Engineering of <i>Eubacterium limosum</i> Using Expanded Genetic Tools and the CRISPR-Cas9 System. <i>ACS Synthetic Biology</i> , 2019, 8, 2059-2068.	3.8	38
31	Frost layer growth behavior under cryogenic conditions. <i>Applied Thermal Engineering</i> , 2019, 163, 114333.	6.0	33
32	Sensor-Instrumented Scaffold Integrated with Microporous Spongelike Ultrabuoy for Long-Term 3D Mapping of Cellular Behaviors and Functions. <i>ACS Nano</i> , 2019, 13, 7898-7904.	14.6	8
33	Direct growth of hierarchical nanoneedle arrays with branched nanotubes from titanium foil with excellent anti-corrosion and superhydrophilicity. <i>Chemical Engineering Journal</i> , 2019, 372, 616-623.	12.7	6
34	Hierarchical Macroporous Particles for Efficient Whole-Cell Immobilization: Application in Bioconversion of Greenhouse Gases to Methanol. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 18968-18977.	8.0	57
35	Numerical and experimental investigation on thermal expansion of UO <sub>2</sub> -5 vol% Mo microcell pellet for qualitative comparison to UO <sub>2</sub> pellet. <i>Journal of Nuclear Materials</i> , 2019, 518, 342-349.	2.7	9
36	SiO <sub>2</sub> microparticles with carbon nanotube-derived mesopores as an efficient support for enzyme immobilization. <i>Chemical Engineering Journal</i> , 2019, 359, 1252-1264.	12.7	154

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37	Thermal performance improvement based on the partial heating position of a heat sink. <i>International Journal of Heat and Mass Transfer</i> , 2018, 124, 752-760.	4.8	19
38	Fabrication of micro-patterned aluminum surfaces for low ice adhesion strength. <i>Applied Surface Science</i> , 2018, 440, 643-650.	6.1	24
39	Fabrication of three-dimensional porous carbon scaffolds with tunable pore sizes for effective cell confinement. <i>Carbon</i> , 2018, 130, 814-821.	10.3	12
40	Defrosting behavior and performance on vertical plate for surfaces of varying wettability. <i>International Journal of Heat and Mass Transfer</i> , 2018, 120, 481-489.	4.8	20
41	Synthesis of cross-linked protein-metal hybrid nanoflowers and its application in repeated batch decolorization of synthetic dyes. <i>Journal of Hazardous Materials</i> , 2018, 347, 442-450.	12.4	145
42	Flexible elastomer patch with vertical silicon nanoneedles for intracellular and intratissue nano-injection of biomolecules. <i>Science Advances</i> , 2018, 4, eaau6972.	10.3	39
43	Slippery Materials: Three-dimensionally Programmed Slippery Wrinkles with High Stretchability for Tunable Functionality of Icephobicity and Effective Water Harvesting ( <i>Adv. Mater. Interfaces</i> 21/2018). <i>Advanced Materials Interfaces</i> , 2018, 5, 1870104.	3.7	0
44	Water-repellent Hybrid Nanowire and Micro-scale Denticle Structures on Flexible Substrates of Effective Air Retention. <i>Scientific Reports</i> , 2018, 8, 16631.	3.3	5
45	Genome-scale analysis of syngas fermenting acetogenic bacteria reveals the translational regulation for its autotrophic growth. <i>BMC Genomics</i> , 2018, 19, 837.	2.8	36
46	Genome-scale analysis of <i>Acetobacterium bakii</i> reveals the cold adaptation of psychrotolerant acetogens by post-transcriptional regulation. <i>Rna</i> , 2018, 24, 1839-1855.	3.5	10
47	Insights into Cell-Free Conversion of CO <sub>2</sub> to Chemicals by a Multienzyme Cascade Reaction. <i>ACS Catalysis</i> , 2018, 8, 11085-11093.	11.2	87
48	Three-dimensionally Programmed Slippery Wrinkles with High Stretchability for Tunable Functionality of Icephobicity and Effective Water Harvesting. <i>Advanced Materials Interfaces</i> , 2018, 5, 1800980.	3.7	18
49	Quantitative analysis of anti-freezing characteristics of superhydrophobic surfaces according to initial ice nuclei formation time and freezing propagation velocity. <i>International Journal of Heat and Mass Transfer</i> , 2018, 126, 109-117.	4.8	21
50	Frosting and defrosting behavior of slippery surfaces and utilization of mechanical vibration to enhance defrosting performance. <i>International Journal of Heat and Mass Transfer</i> , 2018, 125, 858-865.	4.8	27
51	Minimizing thermal interference effects of multiple heat sources for effective cooling of power conversion electronics. <i>Energy Conversion and Management</i> , 2018, 174, 218-226.	9.2	13
52	Modeling of frost layer growth considering frost porosity. <i>International Journal of Heat and Mass Transfer</i> , 2018, 126, 980-988.	4.8	37
53	Facile Fabrication of Superomniphobic Polymer Hierarchical Structures for Directional Droplet Movement. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 9213-9220.	8.0	24
54	Frosting characteristics on hydrophobic and superhydrophobic surfaces: A review. <i>Energy Conversion and Management</i> , 2017, 138, 1-11.	9.2	120

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55	Three-Dimensional Hetero-Integration of Faceted GaN on Si Pillars for Efficient Light Energy Conversion Devices. ACS Nano, 2017, 11, 6853-6859.	14.6	7
56	$\text{BiVO}_4/\text{WO}_3/\text{SnO}_2$ Double-Heterojunction Photoanode with Enhanced Charge Separation and Visible-Transparency for Bias-Free Solar Water-Splitting with a Perovskite Solar Cell. ACS Applied Materials & Interfaces, 2017, 9, 1479-1487.	8.0	158
57	Determination of the Genome and Primary Transcriptome of Syngas Fermenting Eubacterium limosum ATCC8486. Scientific Reports, 2017, 7, 13694.	3.3	44
58	Fabrication of three-dimensional metal-graphene network phase change composite for high thermal conductivity and suppressed subcooling phenomena. Energy Conversion and Management, 2017, 149, 608-615.	9.2	34
59	Frost behavior of a louvered fin heat exchanger with vortex-generating fins. International Journal of Heat and Mass Transfer, 2017, 114, 590-596.	4.8	13
60	Stochastic approach to the anti-freezing behaviors of superhydrophobic surfaces. International Journal of Heat and Mass Transfer, 2017, 106, 841-846.	4.8	34
61	Numerical characterization of micro-cell UO <sub>2</sub> Mo pellet for enhanced thermal performance. Journal of Nuclear Materials, 2016, 477, 88-94.	2.7	18
62	Microscopic observation of frost behaviors at the early stage of frost formation on hydrophobic surfaces. International Journal of Heat and Mass Transfer, 2016, 97, 861-867.	4.8	33
63	A novel louvered fin design to enhance thermal and drainage performances during periodic frosting/defrosting conditions. Energy Conversion and Management, 2016, 110, 494-500.	9.2	45
64	Enhancement of photo-thermal conversion using gold nanofluids with different particle sizes. Energy Conversion and Management, 2016, 112, 21-30.	9.2	128
65	Frosting behaviors and thermal performance of louvered fins with unequal louver pitch. International Journal of Heat and Mass Transfer, 2016, 95, 499-505.	4.8	35
66	Optimum hub height of a wind turbine for maximizing annual net profit. Energy Conversion and Management, 2015, 100, 90-96.	9.2	34
67	Rotation characteristic and granular temperature analysis in a bubbling fluidized bed of binary particles. Particuology, 2015, 18, 76-88.	3.6	8
68	Direct growth of cerium oxide nanorods on diverse substrates for superhydrophobicity and corrosion resistance. Applied Surface Science, 2015, 340, 96-101.	6.1	74
69	Correlation of cross-cut cylindrical heat sink to improve the orientation effect of LED light bulbs. International Journal of Heat and Mass Transfer, 2015, 84, 821-826.	4.8	34
70	Local frost behaviors of a scaled-up louvered fin heat exchanger. International Journal of Heat and Mass Transfer, 2015, 89, 1127-1134.	4.8	19
71	Experimental investigation of frost retardation for superhydrophobic surface using a luminance meter. International Journal of Heat and Mass Transfer, 2015, 87, 491-496.	4.8	36
72	Fabrication of nanowire electronics on nonconventional substrates by water-assisted transfer printing method. Proceedings of SPIE, 2015, , .	0.8	0

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73	Granular temperature and rotational characteristic analysis of a gas–solid bubbling fluidized bed under different gravities using discrete hard sphere model. Powder Technology, 2015, 271, 35-48.	4.2	18
74	Thermal performance of microchannel heat exchangers according to the design parameters under the frosting conditions. International Journal of Heat and Mass Transfer, 2014, 71, 626-632.	4.8	42
75	Transfer Printing Methods for Flexible Thin Film Solar Cells: Basic Concepts and Working Principles. ACS Nano, 2014, 8, 8746-8756.	14.6	89
76	Electroassisted Transfer of Vertical Silicon Wire Arrays Using a Sacrificial Porous Silicon Layer. Nano Letters, 2013, 13, 4362-4368.	9.1	33
77	Local frosting behavior of a plated-fin and tube heat exchanger according to the refrigerant flow direction and surface treatment. International Journal of Heat and Mass Transfer, 2013, 64, 751-758.	4.8	34
78	Codoping titanium dioxide nanowires with tungsten and carbon for enhanced photoelectrochemical performance. Nature Communications, 2013, 4, 1723.	12.8	249
79	Peel-and-Stick: Fabricating Thin Film Solar Cell on Universal Substrates. Scientific Reports, 2012, 2, 1000.	3.3	66
80	Shrinking and Growing: Grain Boundary Density Reduction for Efficient Polysilicon Thin-Film Solar Cells. Nano Letters, 2012, 12, 6485-6491.	9.1	24
81	Thermal conductivity in porous silicon nanowire arrays. Nanoscale Research Letters, 2012, 7, 554.	5.7	64
82	Fabrication of Flexible and Vertical Silicon Nanowire Electronics. Nano Letters, 2012, 12, 3339-3343.	9.1	107
83	Hybrid Si Microwire and Planar Solar Cells: Passivation and Characterization. Nano Letters, 2011, 11, 2704-2708.	9.1	151
84	Branched TiO <sub>2</sub> Nanorods for Photoelectrochemical Hydrogen Production. Nano Letters, 2011, 11, 4978-4984.	9.1	843
85	Fabrication of Nanowire Electronics on Nonconventional Substrates by Water-Assisted Transfer Printing Method. Nano Letters, 2011, 11, 3435-3439.	9.1	98
86	Vertical Transfer of Uniform Silicon Nanowire Arrays via Crack Formation. Nano Letters, 2011, 11, 1300-1305.	9.1	73
87	Methane oxidation over catalytic copper oxides nanowires. Proceedings of the Combustion Institute, 2011, 33, 3169-3175.	3.9	42
88	Fabricating nanowire devices on diverse substrates by simple transfer-printing methods. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9950-9955.	7.1	123
89	Direct Growth of Nanowire Logic Gates and Photovoltaic Devices. Nano Letters, 2010, 10, 1050-1054.	9.1	29
90	Orientation-Controlled Alignment of Axially Modulated pn Silicon Nanowires. Nano Letters, 2010, 10, 5116-5122.	9.1	39

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91	Probing Flow Velocity with Silicon Nanowire Sensors. Nano Letters, 2009, 9, 1984-1988.	9.1	72
92	Single and Tandem Axial <i>p-i-n</i> Nanowire Photovoltaic Devices. Nano Letters, 2008, 8, 3456-3460.	9.1	401
93	Numerical Characterization and Optimization of the Microfluidics for Nanowire Biosensors. Nano Letters, 2008, 8, 3233-3237.	9.1	60
94	3-D Numerical Simulation of Contact Angle Hysteresis for Slug Flow in Microchannel. , 2007, , 955.		0
95	Compact Model of Slug Flow in Microchannels. , 2007, , .		1