

# Mingyi Zhang

## List of Publications by Year in descending order

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100  
papers

3,693  
citations

94433

37  
h-index

161849

54  
g-index

100  
all docs

100  
docs citations

100  
times ranked

1095  
citing authors

#	ARTICLE	IF	CITATIONS
1	Changes in permafrost extent and active layer thickness in the Northern Hemisphere from 1969 to 2018. <i>Science of the Total Environment</i> , 2022, 804, 150182.	8.0	30
2	Thermal control performance of the embankment with L-shaped thermosyphons and insulations along the Gonghe-Yushu Highway. <i>Cold Regions Science and Technology</i> , 2022, 194, 103428.	3.5	14
3	A hydraulic conductivity model of frozen soils with the consideration of water films. <i>European Journal of Soil Science</i> , 2022, 73, .	3.9	4
4	A self-adaption horizontal thermosyphon technology in uneven thermal control of roadway embankments in sub-arctic permafrost regions. <i>Transportation Geotechnics</i> , 2022, 33, 100714.	4.5	9
5	Study on the frost heave behavior of the freezing unsaturated silty clay. <i>Cold Regions Science and Technology</i> , 2022, 197, 103525.	3.5	20
6	A non-local frost heave model based on peridynamics theory. <i>Computers and Geotechnics</i> , 2022, 145, 104675.	4.7	5
7	Experimental study on the startup and heat transfer behaviors of a two-phase closed thermosyphon at subzero temperatures. <i>International Journal of Heat and Mass Transfer</i> , 2022, 190, 122283.	4.8	7
8	Rotational failure of concrete lining slabs induced by water level changes in ice-covered reservoirs in cold regions: Mechanism, patterns, and prevention measures. <i>Cold Regions Science and Technology</i> , 2022, 199, 103562.	3.5	4
9	Study on the solar albedo characteristics of pavement and embankment slope surfaces in permafrost regions. <i>Solar Energy</i> , 2022, 237, 352-364.	6.1	3
10	Engineering microbial systems for the production and functionalization of biomaterials. <i>Current Opinion in Microbiology</i> , 2022, 68, 102154.	5.1	5
11	Model tests of the barrier measures on moisture and salt migration in soils subjected to freeze-thaw cycles. <i>Cold Regions Science and Technology</i> , 2022, 201, 103607.	3.5	2
12	Multi-scale Experimental Investigations on the Deterioration Mechanism of Sandstone Under Wetting&quot;Drying Cycles. <i>Rock Mechanics and Rock Engineering</i> , 2021, 54, 429-441.	5.4	25
13	Effect of freeze-thaw cycles on soil engineering properties of reservoir bank slopes at the northern foot of Tianshan Mountain. <i>Journal of Mountain Science</i> , 2021, 18, 541-557.	2.0	21
14	An integrated observation dataset of the hydrological and thermal deformation in permafrost slopes and engineering infrastructure in the Qinghai&quot;Tibet Engineering Corridor. <i>Earth System Science Data</i> , 2021, 13, 4035-4052.	9.9	4
15	Experimental Study on the Effect of Freeze&quot;Thaw Cycles on the Mineral Particle Fragmentation and Aggregation with Different Soil Types. <i>Minerals (Basel, Switzerland)</i> , 2021, 11, 913.	2.0	16
16	Numerical optimization of the installing position for the L-shaped TPCT in a permafrost embankment based on the spatial heat control. <i>Solar Energy</i> , 2021, 224, 1406-1425.	6.1	8
17	Experimental study of optical and cooling performances of CuO and TiO2 near-infrared reflective blending coatings. <i>Solar Energy</i> , 2021, 225, 19-32.	6.1	12
18	Laboratory study on the frost-proof performance of a novel embankment dam in seasonally frozen regions. <i>Journal of Hydrology</i> , 2021, 602, 126769.	5.4	9

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19	Influence of nano-silica on the performances of concrete under the negative-temperature curing condition. <i>Cold Regions Science and Technology</i> , 2021, 191, 103357.	3.5	15
20	Variations of the temperatures and volumetric unfrozen water contents of fine-grained soils during a freezing–thawing process. <i>Acta Geotechnica</i> , 2020, 15, 595-601.	5.7	51
21	Variation behavior of pore-water pressure in warm frozen soil under load and its relation to deformation. <i>Acta Geotechnica</i> , 2020, 15, 603-614.	5.7	19
22	A generalized model for calculating the thermal conductivity of freezing soils based on soil components and frost heave. <i>International Journal of Heat and Mass Transfer</i> , 2020, 150, 119166.	4.8	30
23	Work conjugate stress and strain variables for unsaturated frozen soils. <i>Journal of Hydrology</i> , 2020, 582, 124537.	5.4	17
24	Countermeasures combined with thermosyphons against the thermal instability of high-grade highways in permafrost regions. <i>International Journal of Heat and Mass Transfer</i> , 2020, 153, 119047.	4.8	18
25	Investigation on frost heave of saturated–unsaturated soils. <i>Acta Geotechnica</i> , 2020, 15, 3295-3306.	5.7	43
26	Study on the coupled heat-water-vapor-mechanics process of unsaturated soils. <i>Journal of Hydrology</i> , 2020, 585, 124784.	5.4	41
27	Effect of length ratios on the cooling performance of an inclined two-phase closed thermosyphon under negative temperature conditions. <i>Solar Energy</i> , 2020, 204, 600-616.	6.1	18
28	Laboratory investigation of the efficiency optimization of an inclined two-phase closed thermosyphon in ambient cool energy utilization. <i>Renewable Energy</i> , 2019, 133, 1178-1187.	8.9	26
29	A black near-infrared reflective coating based on nano-technology. <i>Energy and Buildings</i> , 2019, 205, 109523.	6.7	24
30	Evaluation of the ground heat control capacity of a novel air-L-shaped TPCT-ground (ALTC) cooling system in cold regions. <i>Energy</i> , 2019, 179, 655-668.	8.8	63
31	Hydro-thermal behaviors of the ground under different surfaces in the Qinghai-Tibet Plateau. <i>Cold Regions Science and Technology</i> , 2019, 161, 99-106.	3.5	22
32	Hydro-thermal boundary conditions at different underlying surfaces in a permafrost region of the Qinghai-Tibet Plateau. <i>Science of the Total Environment</i> , 2019, 670, 1190-1203.	8.0	25
33	A developed method to measure and calculate the solar albedo of discrete-particle layers. <i>Solar Energy</i> , 2019, 194, 671-681.	6.1	4
34	Centrifuge and numerical modeling of the frost heave mechanism of a cold-region canal. <i>Acta Geotechnica</i> , 2019, 14, 1113-1128.	5.7	35
35	Thermal effect of rainwater infiltration into a replicated road embankment in a cold environmental chamber. <i>Cold Regions Science and Technology</i> , 2019, 159, 47-57.	3.5	10
36	Analysis of volumetric unfrozen water contents in freezing soils. <i>Experimental Heat Transfer</i> , 2019, 32, 426-438.	3.2	43

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37	A generalized thermal conductivity model of geomaterials based on micro-structures. <i>Acta Geotechnica</i> , 2019, 14, 1423-1436.	5.7	13
38	Experimental and theoretical studies on the solar reflectance of crushed-rock layers. <i>Cold Regions Science and Technology</i> , 2019, 159, 13-19.	3.5	10
39	Numerical evaluation of the cooling performance of a composite L-shaped two-phase closed thermosyphon (LTPCT) technique in permafrost regions. <i>Solar Energy</i> , 2019, 177, 22-31.	6.1	54
40	Thermo-seismic characteristics of a crushed-rock interlayer embankment on a permafrost slope. <i>Cold Regions Science and Technology</i> , 2018, 151, 249-259.	3.5	15
41	Experimental study on the freezing-thawing deformation of a silty clay. <i>Cold Regions Science and Technology</i> , 2018, 151, 19-27.	3.5	85
42	Experimental and numerical simulations on heat-water-mechanics interaction mechanism in a freezing soil. <i>Applied Thermal Engineering</i> , 2018, 132, 209-220.	6.0	72
43	Evaluation of calculation models for the thermal conductivity of soils. <i>International Communications in Heat and Mass Transfer</i> , 2018, 94, 14-23.	5.6	53
44	A new model to determine the thermal conductivity of fine-grained soils. <i>International Journal of Heat and Mass Transfer</i> , 2018, 123, 407-417.	4.8	53
45	Study on the freezing temperature of saline soil. <i>Acta Geotechnica</i> , 2018, 13, 195-205.	5.7	53
46	Experimental study of the hydro-thermal characteristics and frost heave behavior of a saturated silt within a closed freezing system. <i>Applied Thermal Engineering</i> , 2018, 129, 1447-1454.	6.0	28
47	Theory and application of a novel soil freezing characteristic curve. <i>Applied Thermal Engineering</i> , 2018, 129, 1106-1114.	6.0	66
48	Experimental study on the water-heat-vapor behavior in a freezing coarse-grained soil. <i>Applied Thermal Engineering</i> , 2018, 128, 956-965.	6.0	53
49	UAV-based spatiotemporal thermal patterns of permafrost slopes along the Qinghai-Tibet Engineering Corridor. <i>Landslides</i> , 2018, 15, 2161-2172.	5.4	13
50	Study of the time-dependent thermal behavior of the multilayer asphalt concrete pavement in permafrost regions. <i>Construction and Building Materials</i> , 2018, 193, 162-172.	7.2	17
51	A new simplified method for measuring the permeability characteristics of highly porous media. <i>Journal of Hydrology</i> , 2018, 562, 725-732.	5.4	85
52	The thermal effect of heating two-phase closed thermosyphons on the high-speed railway embankment in seasonally frozen regions. <i>Applied Thermal Engineering</i> , 2018, 141, 948-957.	6.0	39
53	Variation of the thermal conductivity of a silty clay during a freezing-thawing process. <i>International Journal of Heat and Mass Transfer</i> , 2018, 124, 1059-1067.	4.8	67
54	Water-vapor-heat behavior in a freezing unsaturated coarse-grained soil with a closed top. <i>Cold Regions Science and Technology</i> , 2018, 155, 120-126.	3.5	37

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55	Crack formation of a highway embankment installed with two-phase closed thermosyphons in permafrost regions: Field experiment and geothermal modelling. <i>Applied Thermal Engineering</i> , 2017, 115, 670-681.	6.0	64
56	Quantitative analysis for the effect of microstructure on the mechanical strength of frozen silty clay with different contents of sodium sulfate. <i>Environmental Earth Sciences</i> , 2017, 76, 1.	2.7	35
57	Effect of hydro-thermal behavior on the frost heave of a saturated silty clay under different applied pressures. <i>Applied Thermal Engineering</i> , 2017, 117, 462-467.	6.0	33
58	Waterâ€“heat migration and frost-heave behavior of a saturated silty clay with a water supply. <i>Experimental Heat Transfer</i> , 2017, 30, 517-529.	3.2	19
59	Crystallization deformation of a saline soil during freezing and thawing processes. <i>Applied Thermal Engineering</i> , 2017, 120, 463-473.	6.0	72
60	The Phase Change Process and Properties of Saline Soil During Cooling. <i>Arabian Journal for Science and Engineering</i> , 2017, 42, 3923-3932.	3.0	36
61	Theoretical and experimental studies on the daily accumulative heat gain from cool roofs. <i>Energy</i> , 2017, 129, 138-147.	8.8	106
62	Effect of Temperature Gradients on the Frost Heave of a Saturated Silty Clay with a Water Supply. <i>Journal of Cold Regions Engineering - ASCE</i> , 2017, 31, .	1.1	27
63	Model test study on the anti-saline effect of the crushed-rock embankment with impermeable geotextile in frozen saline soil regions. <i>Cold Regions Science and Technology</i> , 2017, 141, 86-96.	3.5	9
64	Estimating soil freezing characteristic curve based on pore-size distribution. <i>Applied Thermal Engineering</i> , 2017, 124, 1049-1060.	6.0	78
65	Geotemperature control performance of two-phase closed thermosyphons in the shady and sunny slopes of an embankment in a permafrost region. <i>Applied Thermal Engineering</i> , 2017, 112, 986-998.	6.0	52
66	Experimental and numerical analyses of the thermo-mechanical stability of an embankment with shady and sunny slopes in a permafrost region. <i>Applied Thermal Engineering</i> , 2017, 127, 1478-1487.	6.0	93
67	Thermo-mechanical stability analysis of cooling embankment with crushed-rock interlayer on a sloping ground in permafrost regions. <i>Applied Thermal Engineering</i> , 2017, 125, 1200-1208.	6.0	19
68	Enhancement of convective cooling of the porous crushed-rock layer in cold regions based on experimental investigations. <i>International Communications in Heat and Mass Transfer</i> , 2017, 87, 14-21.	5.6	24
69	Numerical study of the thermal characteristics of a shallow tunnel section with a two-phase closed thermosyphon group in a permafrost region under climate warming. <i>International Journal of Heat and Mass Transfer</i> , 2017, 104, 952-963.	4.8	53
70	A full-scale field experiment to evaluate the cooling performance of a novel composite embankment in permafrost regions. <i>International Journal of Heat and Mass Transfer</i> , 2016, 95, 1047-1056.	4.8	60
71	Typical embankment settlement/heave patterns of the Qinghaiâ€“Tibet highway in permafrost regions: Formation and evolution. <i>Engineering Geology</i> , 2016, 214, 147-156.	6.3	62
72	A naturally-occurring â€“cold earthâ€“ spot in Northern China. <i>Scientific Reports</i> , 2016, 6, 34184.	3.3	16

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73	Cooling performance of two-phase closed thermosyphons installed at a highway embankment in permafrost regions. <i>Applied Thermal Engineering</i> , 2016, 98, 220-227.	6.0	59
74	Experimental and numerical investigations on frost damage mechanism of a canal in cold regions. <i>Cold Regions Science and Technology</i> , 2015, 116, 1-11.	3.5	84
75	Seasonal differences in seismic responses of embankment on a sloping ground in permafrost regions. <i>Soil Dynamics and Earthquake Engineering</i> , 2015, 76, 122-135.	3.8	32
76	Heat and mass transfer effects of ice growth mechanisms in a fully saturated soil. <i>International Journal of Heat and Mass Transfer</i> , 2015, 86, 699-709.	4.8	60
77	Lateral thermal disturbance of embankments in the permafrost regions of the Qinghai-Tibet Engineering Corridor. <i>Natural Hazards</i> , 2015, 78, 2121-2142.	3.4	45
78	Evaluating the cooling performance of crushed-rock interlayer embankments with unperforated and perforated ventilation ducts in permafrost regions. <i>Energy</i> , 2015, 93, 874-881.	8.8	74
79	Effect of Inclination Angle on the Heat Transfer Performance of a Two-Phase Closed Thermosyphon under Low-Temperature Conditions. <i>Journal of Cold Regions Engineering - ASCE</i> , 2014, 28, .	1.1	30
80	Thermal stability analysis of crushed-rock embankments on a slope in permafrost regions. <i>Cold Regions Science and Technology</i> , 2014, 106-107, 175-182.	3.5	17
81	Study on theory model of hydro-thermal-mechanical interaction process in saturated freezing silty soil. <i>International Journal of Heat and Mass Transfer</i> , 2014, 78, 805-819.	4.8	215
82	Experimental study on ventilation characteristics of a concrete-sphere layer and a crushed-rock layer. <i>International Journal of Heat and Mass Transfer</i> , 2013, 59, 407-413.	4.8	28
83	Laboratory investigation of the heat transfer characteristics of a two-phase closed thermosyphon. <i>Cold Regions Science and Technology</i> , 2013, 95, 67-73.	3.5	26
84	A New Method to Determine the Upper Boundary Condition for a Permafrost Thermal Model: An Example from the Qinghai-Tibet Plateau. <i>Permafrost and Periglacial Processes</i> , 2012, 23, 301-311.	3.4	15
85	Numerical analysis for thermal characteristics of cinderblock interlayer embankments in permafrost regions. <i>Applied Thermal Engineering</i> , 2012, 36, 252-259.	6.0	16
86	Numerical study on cooling characteristics of two-phase closed thermosyphon embankment in permafrost regions. <i>Cold Regions Science and Technology</i> , 2011, 65, 203-210.	3.5	86
87	Three-Dimensional Nonlinear Analysis for the Cooling Characteristics of Crushed-Rock Interlayer Embankment with Ventilated Duct along the Qinghai-Tibet Expressway in Permafrost Regions. <i>Journal of Cold Regions Engineering - ASCE</i> , 2010, 24, 126-141.	1.1	17
88	Numerical study on the influence of geometrical parameters on natural convection cooling effect of the crushed-rock revetment. <i>Science in China Series D: Earth Sciences</i> , 2009, 52, 539-545.	0.9	20
89	Seismic analysis of embankment of Qinghai-Tibet railway. <i>Cold Regions Science and Technology</i> , 2009, 55, 151-159.	3.5	25
90	Numerical study on temperature characteristics of expressway embankment with crushed-rock revetment and ventilated ducts in warm permafrost regions. <i>Cold Regions Science and Technology</i> , 2009, 59, 19-24.	3.5	51

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91	Laboratory investigation on cooling effect of duct-ventilated embankment with a chimney in permafrost regions. Cold Regions Science and Technology, 2008, 54, 115-119.	3.5	25
92	Experimental study on influence of particle size on cooling effect of crushed-rock layer under closed and open tops. Cold Regions Science and Technology, 2007, 48, 232-238.	3.5	40
93	Numerical analysis for random temperature fields of embankment in cold regions. Science in China Series D: Earth Sciences, 2007, 50, 404-410.	0.9	17
94	Influence of boundary conditions on the cooling effect of crushed-rock embankment in permafrost regions of Qinghai-Tibetan Plateau. Cold Regions Science and Technology, 2006, 44, 225-239.	3.5	77
95	A numerical model of the coupled heat transfer for duct-ventilated embankment under wind action in cold regions and its application. Cold Regions Science and Technology, 2006, 45, 103-113.	3.5	45
96	Experimental investigation on influence of boundary conditions on cooling effect and mechanism of crushed-rock layers. Cold Regions Science and Technology, 2006, 45, 114-121.	3.5	52
97	Laboratory investigation on cooling effect of sloped crushed-rock revetment in permafrost regions. Cold Regions Science and Technology, 2006, 46, 27-35.	3.5	38
98	Numerical analysis for cooling effect of open boundary ripped-rock embankment on Qinghai-Tibetan railway. Science in China Series D: Earth Sciences, 2006, 49, 764-772.	0.9	49
99	Laboratory Investigation of the Heat Transfer Characteristics of a Trapezoidal Crushed-Rock Layer Under Impermeable and Permeable Boundaries. Experimental Heat Transfer, 2006, 19, 251-264.	3.2	14
100	Nonlinear analysis for the cooling effect of Qinghai-Tibetan railway embankment with different structures in permafrost regions. Cold Regions Science and Technology, 2005, 42, 237-249.	3.5	63