

# Tengfei Luo

## List of Publications by Year in descending order

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Version: 2024-02-01

130  
papers

6,692  
citations

71102

41  
h-index

66911

78  
g-index

133  
all docs

133  
docs citations

133  
times ranked

6995  
citing authors

#	ARTICLE	IF	CITATIONS
1	Enhanced thermal transport across the interface between charged graphene and poly(ethylene oxide) by non-covalent functionalization. <i>International Journal of Heat and Mass Transfer</i> , 2022, 183, 122188.	4.8	15
2	Physics-informed deep learning for solving phonon Boltzmann transport equation with large temperature non-equilibrium. <i>Npj Computational Materials</i> , 2022, 8, .	8.7	23
3	Predicting Diffusion Coefficients of Binary and Ternary Supercritical Water Mixtures via Machine and Transfer Learning with Deep Neural Network. <i>Industrial &amp; Engineering Chemistry Research</i> , 2022, 61, 8542-8550.	3.7	12
4	Exploring High Thermal Conductivity Amorphous Polymers Using Reinforcement Learning. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 15587-15598.	8.0	21
5	Molecular understanding of the effect of hydrogen on graphene growth by plasma-enhanced chemical vapor deposition. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 10297-10304.	2.8	3
6	Effect of side-chain $\pi$ - $\pi$ stacking on the thermal conductivity switching in azobenzene polymers: a molecular dynamics simulation study. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 10272-10279.	2.8	3
7	Graphene petal foams with hierarchical micro- and nano-channels for ultrafast spontaneous and continuous oil recovery. <i>Journal of Materials Chemistry A</i> , 2022, 10, 11651-11658.	10.3	4
8	Structured illumination with thermal imaging (SI-TI): A dynamically reconfigurable metrology for parallelized thermal transport characterization. <i>Applied Physics Reviews</i> , 2022, 9, .	11.3	3
9	Enhanced water evaporation under spatially gradient electric Fields: A molecular dynamics study. <i>Journal of Molecular Liquids</i> , 2022, 360, 119410.	4.9	6
10	Anisotropically tuning interfacial thermal conductance between graphite and poly(ethylene oxide) by lithium-ion intercalation: A molecular dynamics study. <i>International Journal of Heat and Mass Transfer</i> , 2022, 195, 123134.	4.8	9
11	Effect of electric field on water free energy in graphene nanochannel. <i>Journal of Applied Physics</i> , 2022, 132, .	2.5	2
12	Spontaneous Crystallization for Tailoring Polymorphic Nanoscale Nickel with Superior Hardness. <i>Journal of Physical Chemistry C</i> , 2022, 126, 12301-12312.	3.1	3
13	Phonon Dephasing Dynamics in MoS <sub>2</sub> . <i>Nano Letters</i> , 2021, 21, 1434-1439.	9.1	5
14	Ionic liquid enables highly efficient low temperature desalination by directional solvent extraction. <i>Nature Communications</i> , 2021, 12, 437.	12.8	42
15	Plasmon Hybridization-Induced Ultra-broadband High Absorption from 0.4 to 1.8 Microns in Titanium Nitride Metastructures. <i>Plasmonics</i> , 2021, 16, 799-809.	3.4	5
16	A predictive model for self-, Maxwell-Stefan, and Fick diffusion coefficients of binary supercritical water mixtures. <i>Journal of Molecular Liquids</i> , 2021, 324, 114735.	4.9	13
17	High In-Plane Thermal Conductivity of Aluminum Nitride Thin Films. <i>ACS Nano</i> , 2021, 15, 9588-9599.	14.6	58
18	Ballistic Brownian motion of supercavitating nanoparticles. <i>Physical Review E</i> , 2021, 103, 042104.	2.1	7

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19	Thermal Transport in Polymers: A Review. <i>Journal of Heat Transfer</i> , 2021, 143, .	2.1	32
20	Thermal Conductivity of Pentiptycene-Based Poly(o-hydroxyimide) Copolymers: A Study via Integrated Experiments and Simulations. <i>ACS Applied Polymer Materials</i> , 2021, 3, 2979-2987.	4.4	6
21	Optically Driven Gold Nanoparticles Seed Surface Bubble Nucleation in Plasmonic Suspension. <i>Nano Letters</i> , 2021, 21, 5485-5492.	9.1	10
22	Physics-informed neural networks for solving multiscale mode-resolved phonon Boltzmann transport equation. <i>Materials Today Physics</i> , 2021, 19, 100429.	6.0	25
23	Phase profile in superposition of Bessel beam modulates local axial optical force on Rayleigh and Mie dielectric spheres. <i>Optik</i> , 2021, 242, 167032.	2.9	1
24	Pentiptycene-based ladder polymers with configurational free volume for enhanced gas separation performance and physical aging resistance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	40
25	Thermal transport in superconducting niobium nitride: A first-principles study. <i>Applied Physics Letters</i> , 2021, 118, 043102.	3.3	2
26	High thermal conductivity and thermal boundary conductance of homoepitaxially grown gallium nitride (GaN) thin films. <i>Physical Review Materials</i> , 2021, 5, .	2.4	10
27	Molecular-Level Understanding of Efficient Thermal Transport across the Silica-Water Interface. <i>Journal of Physical Chemistry C</i> , 2021, 125, 24115-24125.	3.1	10
28	Plasmonic Nanobubbles—A Perspective. <i>Journal of Physical Chemistry C</i> , 2021, 125, 25357-25368.	3.1	19
29	Impact of surface and pore characteristics on fatigue life of laser powder bed fusion Ti-6Al-4V alloy described by neural network models. <i>Scientific Reports</i> , 2021, 11, 20424.	3.3	21
30	Negative optical force field on supercavitating titanium nitride nanoparticles by a single plane wave. <i>Nanophotonics</i> , 2021, 11, 79-86.	6.0	2
31	Experimental observation of localized interfacial phonon modes. <i>Nature Communications</i> , 2021, 12, 6901.	12.8	46
32	Solar-Thermal Water Evaporation: A Review. <i>ACS Energy Letters</i> , 2020, 5, 437-456.	17.4	224
33	A deep neural network interatomic potential for studying thermal conductivity of Ga <sub>2</sub> O <sub>3</sub> . <i>Applied Physics Letters</i> , 2020, 117, .	3.3	43
34	PI1M: A Benchmark Database for Polymer Informatics. <i>Journal of Chemical Information and Modeling</i> , 2020, 60, 4684-4690.	5.4	69
35	Plasma-Made Graphene Nanostructures with Molecularly Dispersed F and Na Sites for Solar Desalination of Oil-Contaminated Seawater with Complete In-Water and In-Air Oil Rejection. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 38512-38521.	8.0	32
36	Thermal conductance across harmonic-matched epitaxial Al-sapphire heterointerfaces. <i>Communications Physics</i> , 2020, 3, .	5.3	41

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37	Transport Phenomena in Nano/Molecular Confinements. ACS Nano, 2020, 14, 16348-16391.	14.6	55
38	Dual-mode solid-state thermal rectification. Nature Communications, 2020, 11, 4346.	12.8	37
39	Leverage electron properties to predict phonon properties via transfer learning for semiconductors. Science Advances, 2020, 6, .	10.3	26
40	Ballistic supercavitating nanoparticles driven by single Gaussian beam optical pushing and pulling forces. Nature Communications, 2020, 11, 2404.	12.8	33
41	Direct Arsenic Removal from Water Using Non-Membrane, Low-Temperature Directional Solvent Extraction. Journal of Chemical & Engineering Data, 2020, 65, 2938-2946.	1.9	17
42	Surface Bubble Growth in Plasmonic Nanoparticle Suspension. ACS Applied Materials & Interfaces, 2020, 12, 26680-26687.	8.0	18
43	On interfacial viscosity in nanochannels. Nanoscale, 2020, 12, 14626-14635.	5.6	12
44	Bulk-like Intrinsic Phonon Thermal Conductivity of Micrometer-Thick AlN Films. ACS Applied Materials & Interfaces, 2020, 12, 29443-29450.	8.0	22
45	Biocompatible Direct Deposition of Functionalized Nanoparticles Using Shrinking Surface Plasmonic Bubble. Advanced Materials Interfaces, 2020, 7, 2000597.	3.7	14
46	Transfer Learning Study of Gas Adsorption in Metal-Organic Frameworks. ACS Applied Materials & Interfaces, 2020, 12, 34041-34048.	8.0	58
47	Thermal Conductivity of Polyelectrolytes with Different Counterions. Journal of Physical Chemistry C, 2020, 124, 4483-4488.	3.1	17
48	A unified deep neural network potential capable of predicting thermal conductivity of silicon in different phases. Materials Today Physics, 2020, 12, 100181.	6.0	41
49	Increasing ammonia recovery from high-level ammonium wastewater via adding sodium sulfate to prevent nitrogen generation in the cathode. Environmental Research, 2020, 186, 109521.	7.5	3
50	LIS-PRO: A new concept of power generation from low temperature heat using liquid-phase ion-stripping-induced salinity gradient. Energy, 2020, 200, 117593.	8.8	8
51	Experimental observation of high intrinsic thermal conductivity of AlN. Physical Review Materials, 2020, 4, .	2.4	60
52	Long-distance optical pulling of nanoparticle in a low index cavity using a single plane wave. Science Advances, 2020, 6, eaaz3646.	10.3	17
53	Controlling the Rotational Barrier of Single Porphyrin Rotors on Surfaces. Journal of Physical Chemistry B, 2020, 124, 953-960.	2.6	0
54	Tuning Water Slip Behavior in Nanochannels Using Self-Assembled Monolayers. ACS Applied Materials & Interfaces, 2019, 11, 32481-32488.	8.0	16

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55	Effect of light atoms on thermal transport across solid–solid interfaces. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 17029-17035.	2.8	17
56	Evaluating Polymer Representations via Quantifying Structure–Property Relationships. <i>Journal of Chemical Information and Modeling</i> , 2019, 59, 3110-3119.	5.4	39
57	A phonon wave packet study of thermal energy transport across functionalized hard-soft interfaces. <i>Journal of Applied Physics</i> , 2019, 126, .	2.5	9
58	Spill-SOS: Self-Pumping Siphon-Capillary Oil Recovery. <i>ACS Nano</i> , 2019, 13, 13027-13036.	14.6	34
59	Exfoliated Graphene Leads to Exceptional Mechanical Properties of Polymer Composite Films. <i>ACS Nano</i> , 2019, 13, 1097-1106.	14.6	29
60	Solar Energy Conversion: Multifunctional Solar Waterways: Plasma–Enabled Self–Cleaning Nanoarchitectures for Energy–Efficient Desalination ( <i>Adv. Energy Mater.</i> 30/2019). <i>Advanced Energy Materials</i> , 2019, 9, 1970119.	19.5	6
61	Beyond lotus: Plasma nanostructuring enables efficient energy and water conversion and use. <i>Nano Energy</i> , 2019, 66, 104125.	16.0	34
62	Multifunctional Solar Waterways: Plasma–Enabled Self–Cleaning Nanoarchitectures for Energy–Efficient Desalination. <i>Advanced Energy Materials</i> , 2019, 9, 1901286.	19.5	109
63	Chain length effect on thermal transport in amorphous polymers and a structure–thermal conductivity relation. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 15523-15530.	2.8	66
64	Exergy Analysis of Directional Solvent Extraction Desalination Process. <i>Entropy</i> , 2019, 21, 321.	2.2	13
65	Role of Ionization in Thermal Transport of Solid Polyelectrolytes. <i>Journal of Physical Chemistry C</i> , 2019, 123, 12659-12665.	3.1	26
66	Light-Guided Surface Plasmonic Bubble Movement via Contact Line De-Pinning by In-Situ Deposited Plasmonic Nanoparticle Heating. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 48525-48532.	8.0	23
67	High-contrast and reversible polymer thermal regulator by structural phase transition. <i>Science Advances</i> , 2019, 5, eaax3777.	10.3	41
68	Crystalline polymer nanofibers with ultra-high strength and thermal conductivity. <i>Nature Communications</i> , 2018, 9, 1664.	12.8	97
69	Effects of Electrostatic Interaction and Chirality on the Friction Coefficient of Water Flow Inside Single-Walled Carbon Nanotubes and Boron Nitride Nanotubes. <i>Journal of Physical Chemistry C</i> , 2018, 122, 5131-5140.	3.1	26
70	Thermal transport across solid-solid interfaces enhanced by pre-interface isotope-phonon scattering. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	29
71	Liquid phase stabilization versus bubble formation at a nanoscale curved interface. <i>Physical Review E</i> , 2018, 97, 033106.	2.1	3
72	Magnon and phonon dispersion, lifetime, and thermal conductivity of iron from spin-lattice dynamics simulations. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	40

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73	Thermal Boundary Conductance Across Heteroepitaxial ZnO/GaN Interfaces: Assessment of the Phonon Gas Model. <i>Nano Letters</i> , 2018, 18, 7469-7477.	9.1	53
74	Role of Molecular Polarity in Thermal Transport of Boron Nitride-Organic Molecule Composites. <i>ACS Omega</i> , 2018, 3, 12530-12534.	3.5	26
75	Low-Cost Nanostructures from Nanoparticle-Assisted Large-Scale Lithography Significantly Enhance Thermal Energy Transport across Solid Interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 34690-34698.	8.0	23
76	Determining influential descriptors for polymer chain conformation based on empirical force-fields and molecular dynamics simulations. <i>Chemical Physics Letters</i> , 2018, 704, 49-54.	2.6	20
77	Origin of Hydrophilic Surface Functionalization-Induced Thermal Conductance Enhancement across Solid-Water Interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 28159-28165.	8.0	29
78	The effect of the block ratio on the thermal conductivity of amorphous polyethylene-polypropylene (PE-PP) diblock copolymers. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 20534-20539.	2.8	15
79	First-principles study of thermoelectric properties of blue phosphorene. <i>Applied Physics Letters</i> , 2018, 113, 063903.	3.3	12
80	Spectral concentration of thermal conductivity in GaN-A first-principles study. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	18
81	The impact of hydrogenation on the thermal transport of silicene. <i>2D Materials</i> , 2017, 4, 025002.	4.4	28
82	Molybdenum Carbamate Nanosheets as a New Class of Potential Phase Change Materials. <i>Nano Letters</i> , 2017, 17, 3902-3906.	9.1	3
83	Functionalized Graphene Enables Highly Efficient Solar Thermal Steam Generation. <i>ACS Nano</i> , 2017, 11, 5510-5518.	14.6	330
84	Thermal Rectification Under Transient Conditions: The Role of Thermal Capacitance and Thermal Conductivity. <i>Journal of Heat Transfer</i> , 2017, 139, .	2.1	8
85	Effects of Defects on the Temperature-Dependent Thermal Conductivity of Suspended Monolayer Molybdenum Disulfide Grown by Chemical Vapor Deposition. <i>Advanced Functional Materials</i> , 2017, 27, 1704357.	14.9	44
86	Molecular Fin Effect from Heterogeneous Self-Assembled Monolayer Enhances Thermal Conductance across Hard-Soft Interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 33740-33748.	8.0	21
87	Thermal Energy Transport across Hard-Soft Interfaces. <i>ACS Energy Letters</i> , 2017, 2, 2283-2292.	17.4	64
88	Investigation of thermal transport across solid interfaces with randomly distributed nanostructures. , 2017, , .		0
89	The role of optical phonons in intermediate layer-mediated thermal transport across solid interfaces. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 18407-18415.	2.8	28
90	Modeling of a continuous water desalination process using directional solvent extraction. <i>Desalination</i> , 2017, 420, 114-124.	8.2	27

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91	The role of intermediate layers in thermal transport across GaN/SiC interfaces. , 2017, , .		0
92	Thermal conductivity of Bi <sub>2</sub> (Se <sub>x</sub> Te <sub>1-x</sub> ) <sub>3</sub> alloy films grown by molecular beam epitaxy. APL Materials, 2017, 5, 066101.	5.1	5
93	Tunable Thermal Transport in Polysilsesquioxane (PSQ) Hybrid Crystals. Scientific Reports, 2016, 6, 21452.	3.3	3
94	Intrinsic electron mobility limits in $\text{In}^{2+}$ -Ga <sub>2</sub> O <sub>3</sub> . Applied Physics Letters, 2016, 109, .	3.3	299
95	Nanostructures Significantly Enhance Thermal Transport across Solid Interfaces. ACS Applied Materials & Interfaces, 2016, 8, 35505-35512.	8.0	50
96	Role of Hydrogen Bonds in Thermal Transport across Hard/Soft Material Interfaces. ACS Applied Materials & Interfaces, 2016, 8, 33326-33334.	8.0	91
97	Hydrogenation of Penta-Graphene Leads to Unexpected Large Improvement in Thermal Conductivity. Nano Letters, 2016, 16, 3925-3935.	9.1	142
98	Effect of electric field non-uniformity on droplets coalescence. Physical Chemistry Chemical Physics, 2016, 18, 29786-29796.	2.8	47
99	Nanostructure-enabled significant thermal transport enhancement across solid interfaces. , 2016, , .		0
100	Thermal Conductivity of Wurtzite Zinc-Oxide from First-Principles Lattice Dynamics â€“ a Comparative Study with Gallium Nitride. Scientific Reports, 2016, 6, 22504.	3.3	119
101	Chain conformation-dependent thermal conductivity of amorphous polymer blends: the impact of inter- and intra-chain interactions. Physical Chemistry Chemical Physics, 2016, 18, 32146-32154.	2.8	59
102	Thermal boundary conductance enhancement using experimentally achievable nanostructured interfaces â€“ analytical study combined with molecular dynamics simulation. Physical Chemistry Chemical Physics, 2016, 18, 16794-16801.	2.8	23
103	Role of Chain Morphology and Stiffness in Thermal Conductivity of Amorphous Polymers. Journal of Physical Chemistry B, 2016, 120, 803-812.	2.6	137
104	Structural Phase- and Degradation-Dependent Thermal Conductivity of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Perovskite Thin Films. Journal of Physical Chemistry C, 2016, 120, 6394-6401.	3.1	53
105	Thermal Diodes: Giant Thermal Rectification from Polyethylene Nanofiber Thermal Diodes (Small) Tj ETQq1 1 0.784314 rgBT /Overlock 10,0 4		
106	A Revisit to High Thermoelectric Performance of Single-layer MoS <sub>2</sub> . Scientific Reports, 2015, 5, 18342.	3.3	154
107	Ultra-low Thermal Conductivity in Si/Ge Hierarchical Superlattice Nanowire. Scientific Reports, 2015, 5, 16697.	3.3	58
108	Giant Thermal Rectification from Polyethylene Nanofiber Thermal Diodes. Small, 2015, 11, 4657-4665.	10.0	68

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109	Thermal Interface Conductance Between Aluminum and Silicon by Molecular Dynamics Simulations. Journal of Computational and Theoretical Nanoscience, 2015, 12, 168-174.	0.4	78
110	Anisotropic thermal conductivity in single crystal $\beta$ -gallium oxide. Applied Physics Letters, 2015, 106, .	3.3	361
111	Effect of electron-phonon coupling on thermal transport across metal-nonmetal interface – A second look. Europhysics Letters, 2015, 110, 67004.	2.0	26
112	Thermal Transport: Molecular Bridge Enables Anomalous Enhancement in Thermal Transport across Hard-Soft Material Interfaces (Adv. Mater. 35/2014). Advanced Materials, 2014, 26, 6092-6092.	21.0	2
113	The importance of anharmonicity in thermal transport across solid-solid interfaces. Journal of Applied Physics, 2014, 115, .	2.5	68
114	Exceptional ion rejection ability of directional solvent for non-membrane desalination. Applied Physics Letters, 2014, 104, 024102.	3.3	26
115	Tuning the thermal conductivity of solar cell polymers through side chain engineering. Physical Chemistry Chemical Physics, 2014, 16, 7764-7771.	2.8	44
116	Resonant bonding leads to low lattice thermal conductivity. Nature Communications, 2014, 5, 3525.	12.8	484
117	Molecular Bridge Enables Anomalous Enhancement in Thermal Transport across Hard-Soft Material Interfaces. Advanced Materials, 2014, 26, 6093-6099.	21.0	129
118	Polymer Nanofibers with Outstanding Thermal Conductivity and Thermal Stability: Fundamental Linkage between Molecular Characteristics and Macroscopic Thermal Properties. Journal of Physical Chemistry C, 2014, 118, 21148-21159.	3.1	156
119	Thermal Transport in Graphene Oxide – From Ballistic Extreme to Amorphous Limit. Scientific Reports, 2014, 4, 3909.	3.3	195
120	High-Contrast, Reversible Thermal Conductivity Regulation Utilizing the Phase Transition of Polyethylene Nanofibers. ACS Nano, 2013, 7, 7592-7600.	14.6	78
121	Nanoscale heat transfer – from computation to experiment. Physical Chemistry Chemical Physics, 2013, 15, 3389.	2.8	218
122	Morphology-influenced thermal conductivity of polyethylene single chains and crystalline fibers. Journal of Applied Physics, 2012, 112, .	2.5	95
123	Enhancement of Thermal Energy Transport Across Graphene/Graphite and Polymer Interfaces: A Molecular Dynamics Study. Advanced Functional Materials, 2012, 22, 2495-2502.	14.9	313
124	Very low temperature membrane-free desalination by directional solvent extraction. Energy and Environmental Science, 2011, 4, 1672.	30.8	98
125	Directional solvent for membrane-free water desalination – A molecular level study. Journal of Applied Physics, 2011, 110, .	2.5	34
126	Molecular dynamics simulation of thermal energy transport in polydimethylsiloxane. Journal of Applied Physics, 2011, 109, .	2.5	87

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127	Molecular dynamics study of thermal transport in GaAs-self-assembly monolayer-GaAs junctions with <i>ab initio</i> characterization of thiol-GaAs bonds. Journal of Applied Physics, 2011, 109, .	2.5	33
128	Non-equilibrium molecular dynamics study of thermal energy transport in Au-SAM-Au junctions. International Journal of Heat and Mass Transfer, 2010, 53, 1-11.	4.8	98
129	Equilibrium Molecular Dynamics Study of Lattice Thermal Conductivity/Conductance of Au-SAM-Au Junctions. Journal of Heat Transfer, 2010, 132, .	2.1	41
130	A Computational Framework for Modelling and Simulating Vibrational Mode Dynamics. Modelling and Simulation in Materials Science and Engineering, 0, , .	2.0	3