

# Boxin Zhao

## List of Publications by Year in descending order

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110  
papers

5,115  
citations

87888

38  
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91884

69  
g-index

112  
all docs

112  
docs citations

112  
times ranked

6214  
citing authors

#	ARTICLE	IF	CITATIONS
1	Adhesion and friction in gecko toe attachment and detachment. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 19320-19325.	7.1	546
2	Catechol-functionalized hydrogels: biomimetic design, adhesion mechanism, and biomedical applications. Chemical Society Reviews, 2020, 49, 433-464.	38.1	517
3	Dual Responsive Pickering Emulsion Stabilized by Poly[2-(dimethylamino)ethyl methacrylate] Grafted Cellulose Nanocrystals. Biomacromolecules, 2014, 15, 3052-3060.	5.4	275
4	Electrically conductive hydrogels for flexible energy storage systems. Progress in Polymer Science, 2019, 88, 220-240.	24.7	260
5	Peel-Zone Model of Tape Peeling Based on the Gecko Adhesive System. Journal of Adhesion, 2007, 83, 383-401.	3.0	159
6	Bio-Based Adhesives and Evaluation for Wood Composites Application. Polymers, 2017, 9, 70.	4.5	157
7	Thermally Active Liquid Crystal Network Gripper Mimicking the Self-Peeling of Gecko Toe Pads. Advanced Materials, 2017, 29, 1604021.	21.0	145
8	Adhesion and Friction Force Coupling of Gecko Setal Arrays: Implications for Structured Adhesive Surfaces. Langmuir, 2008, 24, 1517-1524.	3.5	106
9	A Facile In Situ Approach to Polypyrrole Functionalization Through Bioinspired Catechols. Advanced Functional Materials, 2015, 25, 1588-1597.	14.9	103
10	Ferrite-grafted polyaniline nanofibers as electromagnetic shielding materials. Journal of Materials Chemistry C, 2013, 1, 2851.	5.5	102
11	Algae-mussel-inspired hydrogel composite glue for underwater bonding. Materials Horizons, 2019, 6, 285-293.	12.2	102
12	Surface and Tribological Behaviors of the Bioinspired Polydopamine Thin Films under Dry and Wet Conditions. Biomacromolecules, 2013, 14, 394-405.	5.4	96
13	Smart Muscle-Driven Self-Cleaning of Biomimetic Microstructures from Liquid Crystal Elastomers. Advanced Materials, 2015, 27, 6828-6833.	21.0	86
14	Bio-Inspired Dopamine Functionalization of Polypyrrole for Improved Adhesion and Conductivity. Macromolecular Rapid Communications, 2014, 35, 350-354.	3.9	78
15	Frictional Adhesion of Patterned Surfaces and Implications for Gecko and Biomimetic Systems. Langmuir, 2009, 25, 7486-7495.	3.5	75
16	Gecko adhesion pad: a smart surface?. Journal of Physics Condensed Matter, 2009, 21, 464132.	1.8	72
17	Role of Tilted Adhesion Fibrils (Setae) in the Adhesion and Locomotion of Gecko-like Systems. Journal of Physical Chemistry B, 2009, 113, 3615-3621.	2.6	70
18	Highly conductive interconnected graphene foam based polymer composite. Carbon, 2015, 95, 653-658.	10.3	68

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19	Room-temperature pressureless bonding with silver nanowire paste: towards organic electronic and heat-sensitive functional devices packaging. <i>Journal of Materials Chemistry</i> , 2012, 22, 12997.	6.7	66
20	Smart biomimetic micro/nanostructures based on liquid crystal elastomers and networks. <i>Soft Matter</i> , 2017, 13, 8006-8022.	2.7	66
21	Superhydro-oleophobic bio-inspired polydimethylsiloxane micropillared surface via FDTS coating/blending approaches. <i>Applied Surface Science</i> , 2015, 324, 612-620.	6.1	62
22	Adhesion Properties of Self-Polymerized Dopamine Thin Film. <i>The Open Surface Science Journal</i> , 2011, 3, 115-122.	2.0	61
23	Programmable 3D Shape Changes in Liquid Crystal Polymer Networks of Uniaxial Orientation. <i>Advanced Functional Materials</i> , 2018, 28, 1802809.	14.9	60
24	Thiocarboxylate functionalization of silver nanoparticles: effect of chain length on the electrical conductivity of nanoparticles and their polymer composites. <i>Journal of Materials Chemistry</i> , 2012, 22, 20048.	6.7	58
25	Poly(AAc-co-MBA) Hydrogel Films: Adhesive and Mechanical Properties in Aqueous Medium. <i>Journal of Physical Chemistry B</i> , 2013, 117, 441-449.	2.6	56
26	Recent progresses on hybrid micro-nano filler systems for electrically conductive adhesives (ECAs) applications. <i>Journal of Materials Science: Materials in Electronics</i> , 2015, 26, 4730-4745.	2.2	52
27	Polymer Binders: Characterization and Development toward Aqueous Electrode Fabrication for Sustainability. <i>Polymers</i> , 2021, 13, 631.	4.5	52
28	Reinforcement of Ag nanoparticle paste with nanowires for low temperature pressureless bonding. <i>Journal of Materials Science</i> , 2012, 47, 6801-6811.	3.7	51
29	Conformal Adhesion Enhancement on Biomimetic Microstructured Surfaces. <i>Langmuir</i> , 2011, 27, 7732-7742.	3.5	50
30	Highly electrically conductive adhesives using silver nanoparticle (Ag NP)-decorated graphene: the effect of NPs sintering on the electrical conductivity improvement. <i>Journal of Materials Science: Materials in Electronics</i> , 2015, 26, 590-600.	2.2	50
31	A hybrid material that reversibly switches between two stable solid states. <i>Nature Materials</i> , 2019, 18, 874-882.	27.5	49
32	Multifunctional Organohydrogel-Based Ionic Skin for Capacitance and Temperature Sensing toward Intelligent Skin-like Devices. <i>Chemistry of Materials</i> , 2021, 33, 8623-8634.	6.7	49
33	Morphologically Controlled Bioinspired Dopamine-Polypyrrole Nanostructures with Tunable Electrical Properties. <i>Advanced Electronic Materials</i> , 2015, 1, 1500205.	5.1	48
34	Adhesion of Polymers in Paper Products from the Macroscopic to Molecular Level – An Overview. <i>Journal of Adhesion Science and Technology</i> , 2011, 25, 557-579.	2.6	46
35	Changes in pore morphology and fluid transport in compressed articular cartilage and the implications for joint lubrication. <i>Biomaterials</i> , 2008, 29, 4455-4462.	11.4	44
36	Bio-Inspired Polymeric Structures with Special Wettability and Their Applications: An Overview. <i>Polymers</i> , 2017, 9, 725.	4.5	44

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37	SDS-stabilized graphene nanosheets for highly electrically conductive adhesives. <i>Carbon</i> , 2015, 91, 188-199.	10.3	41
38	Bioinspired Functionally Graded Adhesive Materials: Synergetic Interplay of Top Viscous and Elastic Layers with Base Micropillars. <i>Macromolecules</i> , 2014, 47, 353-364.	4.8	40
39	Bio-inspired polydimethylsiloxane-functionalized silica particles - epoxy bilayer as a robust superhydrophobic surface coating. <i>Surface and Coatings Technology</i> , 2014, 254, 230-237.	4.8	36
40	Underwater Contact Behavior of Alginate and Catechol-Conjugated Alginate Hydrogel Beads. <i>Langmuir</i> , 2017, 33, 8353-8361.	3.5	35
41	Transient Surface Patterns and Instabilities at Adhesive Junctions of Viscoelastic Films. <i>Macromolecules</i> , 2007, 40, 8409-8422.	4.8	34
42	How morphology and surface crystal texture affect thermal stability of a metallic nanoparticle: the case of silver nanobelts and pentagonal silver nanowires. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 315-324.	2.8	33
43	Effects of rare earth oxide additive on surface and tribological properties of polyimide composites. <i>Applied Surface Science</i> , 2017, 416, 536-546.	6.1	33
44	Biomimetic Modification of Polymeric Surfaces: A Promising Pathway for Tuning of Wetting and Adhesion. <i>Macromolecular Materials and Engineering</i> , 2012, 297, 743-760.	3.6	32
45	Triple non-covalent dynamic interactions enabled a tough and rapid room temperature self-healing elastomer for next-generation soft antennas. <i>Journal of Materials Chemistry A</i> , 2020, 8, 25073-25084.	10.3	32
46	Electrical Conductive Adhesives Enhanced with High Aspect Ratio Silver Nanobelts. <i>Macromolecular Materials and Engineering</i> , 2014, 299, 739-747.	3.6	31
47	Friction at the Liquid/Liquid Interface of Two Immiscible Polymer Films. <i>Langmuir</i> , 2009, 25, 4954-4964.	3.5	30
48	Surface modification of polydimethylsiloxane elastomer for stable hydrophilicity, optical transparency and film lubrication. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2015, 482, 267-275.	4.7	30
49	Biologically inspired enhancement of pressure-sensitive adhesives using a thin film-terminated fibrillar interface. <i>Soft Matter</i> , 2012, 8, 8281.	2.7	28
50	Contact of Nanoscale Stiff Films. <i>Langmuir</i> , 2012, 28, 9562-9572.	3.5	27
51	Transient surface patterns during adhesion and coalescence of thin liquid films. <i>Soft Matter</i> , 2007, 3, 88-93.	2.7	26
52	Teflon hierarchical nanopillars with dry and wet adhesive properties. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2012, 50, 846-851.	2.1	26
53	Multifunctional liquid crystal polymer network soft actuators. <i>Journal of Materials Chemistry A</i> , 2020, 8, 3390-3396.	10.3	26
54	The application of digital image techniques to determine the large stress-strain behaviors of soft materials. <i>Polymer Engineering and Science</i> , 2012, 52, 826-834.	3.1	25

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55	Bacterial Networks on Hydrophobic Micropillars. ACS Nano, 2017, 11, 675-683.	14.6	25
56	Selectively leaching the iron-removed bauxite residues with phosphoric acid for enrichment of rare earth elements. Separation and Purification Technology, 2019, 227, 115714.	7.9	25
57	Coating cellulose nanocrystals on polypropylene and its film adhesion and mechanical properties. Cellulose, 2017, 24, 1877-1888.	4.9	20
58	Peel adhesion to paper—interpreting peel curves. Journal of Adhesion Science and Technology, 2003, 17, 815-830.	2.6	19
59	Liquid- to Solid-Like Failure Mechanism of Thin Polymer Films at Micro- and Nanoscales. Macromolecules, 2010, 43, 538-542.	4.8	19
60	A transparent silica colloidal crystal/PDMS composite and its application for crack suppression of metallic coatings. Journal of Colloid and Interface Science, 2016, 461, 136-143.	9.4	19
61	PEDOT:PSS nano-gels for highly electrically conductive silver/epoxy composite adhesives. Journal of Materials Science: Materials in Electronics, 2018, 29, 1837-1846.	2.2	19
62	The Crowding Model as a Tool to Understand and Fabricate Gecko-Inspired Dry Adhesives. Journal of Adhesion, 2009, 85, 512-525.	3.0	18
63	Durable Microstructured Surfaces: Combining Electrical Conductivity with Superoleophobicity. ACS Applied Materials & Interfaces, 2016, 8, 1795-1804.	8.0	18
64	Monolithic polymeric porous superhydrophobic material with pneumatic plastron stabilization for functionally durable drag reduction in blood-contacting biomedical applications. NPG Asia Materials, 2021, 13, .	7.9	18
65	Transient Interfacial Patterns and Instabilities Associated with Liquid Film Adhesion and Spreading. Langmuir, 2007, 23, 6126-6135.	3.5	17
66	Adhesion and detachment mechanisms of sugar surfaces from the solid (glassy) to liquid (viscous) states. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 19624-19629.	7.1	16
67	Biomimetic Micro-patterning of Epoxy Coatings for Enhanced Surface Hydrophobicity and Low Friction. Macromolecular Materials and Engineering, 2014, 299, 237-247.	3.6	14
68	Photocatalytic activity of CaTiO <sub>3</sub> derived from roasting process of bauxite residue. Journal of Cleaner Production, 2020, 244, 118598.	9.3	14
69	Antimicrobial polymeric composites for high-touch surfaces in healthcare applications. Current Opinion in Biomedical Engineering, 2022, 22, 100395.	3.4	14
70	Solvent presence and its impact on the lap-shear strength of SDS-decorated graphene hybrid electrically conductive adhesives. International Journal of Adhesion and Adhesives, 2017, 78, 102-110.	2.9	13
71	Simulation-based design of thermally-driven actuators using liquid crystal elastomers. Liquid Crystals, 2018, 45, 1010-1022.	2.2	13
72	Glycerol-Stabilized Algae-Inspired Mussel-Inspired Adhesives for Underwater Bonding. Industrial & Engineering Chemistry Research, 2020, 59, 15255-15263.	3.7	13

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73	Oleophobicity of Biomimetic Micropatterned Surface and Its Effect on the Adhesion of Frozen Oil. <i>Langmuir</i> , 2015, 31, 9901-9910.	3.5	12
74	Water-based polyurethanes for sustainable advanced manufacture. <i>Canadian Journal of Chemical Engineering</i> , 2021, 99, 1851-1869.	1.7	12
75	Functionally graded dry adhesives based on film-terminated silicone foam. <i>International Journal of Adhesion and Adhesives</i> , 2017, 76, 47-53.	2.9	11
76	Graphene-doped polyaniline nanocomposites as electromagnetic wave absorbing materials. <i>Journal of Materials Science: Materials in Electronics</i> , 2017, 28, 10921-10928.	2.2	11
77	Behavior of Water/pMDI Emulsion Adhesive on Bonding Wood Substrates with Varied Surface Properties. <i>Industrial &amp; Engineering Chemistry Research</i> , 2018, 57, 16318-16326.	3.7	11
78	Simple Approach for Quantifying the Thermodynamic Potential of Polymer-Polymer Adhesion. <i>Journal of Adhesion</i> , 2006, 82, 121-133.	3.0	10
79	Thermal analysis of epoxy-based nanocomposites: Have solvent effects been overlooked?. <i>Journal of Thermal Analysis and Calorimetry</i> , 2015, 119, 797-805.	3.6	10
80	Droplet freezing and ice adhesion strength measurement on super-cooled hydrophobic surfaces. <i>Journal of Adhesion</i> , 2017, 93, 375-388.	3.0	10
81	Dual Colorimetric and Conductometric Responses of Silver-Decorated Polypyrrole Nanowires for Sensing Organic Solvents of Varied Polarities. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 29227-29232.	8.0	10
82	Poly Methacrylic Acid Sodium Salt (PMANa)/Polyurethane (PU) Latex-Polyelectrolyte Colloid Systems Enabling One-Pot Fabrication of Nonperiodic Structured Mechanoresponsive Smart Windows. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 27607-27613.	8.0	9
83	Paper properties affecting pressure-sensitive tape adhesion. <i>Journal of Adhesion Science and Technology</i> , 2004, 18, 1625-1641.	2.6	8
84	In Situ Doped Polyaniline Nanotubes for Applications in Flexible Conductive Coatings. <i>Macromolecular Materials and Engineering</i> , 2014, 299, 966-976.	3.6	8
85	Effect of SDS decoration of graphene on the rheological and electrical properties of graphene-filled epoxy/Ag composites. <i>Journal of Materials Science: Materials in Electronics</i> , 2016, 27, 12955-12963.	2.2	8
86	Highly repeatable kinetically-independent synthesis of one- and two-dimensional silver nanostructures by oriented attachment. <i>RSC Advances</i> , 2016, 6, 61641-61649.	3.6	8
87	Cellulose Nanocrystal and Silver Nanobelt Gel: Cooperative Interactions Enabling Dispersion, Colloidal Gels, and Flexible Electronics. <i>Langmuir</i> , 2019, 35, 15897-15903.	3.5	8
88	Synergetic Combination of Interfacial Engineering and Shape-Changing Modulation for Biomimetic Soft Robotic Devices. <i>Langmuir</i> , 2020, 36, 3279-3291.	3.5	8
89	Nature-inspired robust hydrochromic film for dual anticounterfeiting. <i>IScience</i> , 2021, 24, 102652.	4.1	8
90	Porous silver nanosheets: a novel sensing material for nanoscale and microscale airflow sensors. <i>Nanotechnology</i> , 2015, 26, 445501.	2.6	7

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91	Formation of silica colloidal crystals on soft hydrophobic vs rigid hydrophilic surfaces. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2015, 467, 180-187.	4.7	7
92	Development of electrically conductive-superoleophobic micropillars for reducing surface adhesion of oil at low temperatures. <i>Applied Surface Science</i> , 2016, 389, 623-631.	6.1	7
93	Recyclable antimicrobial sulphonated poly (ether ether ketone) " copper films: Flat vs micro-pillared surfaces. <i>Materials Today Communications</i> , 2020, 25, 101485.	1.9	7
94	Viscoelastic tribopairs in dry and lubricated sliding friction. <i>Soft Matter</i> , 2020, 16, 7447-7457.	2.7	7
95	Transient filamentous network structure of a colloidal suspension excited by stepwise electric fields. <i>Physical Review E</i> , 2007, 75, 011409.	2.1	6
96	Surface-Segregation-Induced Nanopillae on FDTS-Blended PDMS Film and Implications in Wettability, Adhesion, and Friction Behaviors. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 7476-7486.	8.0	6
97	Polyaniline-tailored electromechanical responses of the silver/epoxy conductive adhesive composites. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2013, 51, 1448-1455.	2.1	5
98	Acid treatment of silver flake coatings and its application in the flexible electrical circuits. <i>Journal of Materials Science: Materials in Electronics</i> , 2016, 27, 4363-4371.	2.2	5
99	Biotemplated synthesis of cellulose nanocrystal@PVP-assisted polydopamine@Ag nanoparticle as conductive composites. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 12077-12086.	2.2	5
100	Silver-polyaniline-epoxy electrical conductive adhesives - a percolation threshold analysis. , 2011, , .		4
101	Highly-stable silver nanobelts joined via diffusion-free attachment. <i>Nanotechnology</i> , 2016, 27, 295606.	2.6	4
102	Durable poly(N-isopropylacrylamide) grafted PDMS micropillared surfaces for temperature-modulated wetting. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2021, 610, 125901.	4.7	4
103	New analysis of peeling data from paper. <i>Journal of Materials Science Letters</i> , 2003, 22, 265-266.	0.5	3
104	Vitrification during cure produces anomalies and path-dependence in electrical resistance of conductive composites. <i>Composites Science and Technology</i> , 2017, 149, 90-99.	7.8	3
105	Actuators: Programmable 3D Shape Changes in Liquid Crystal Polymer Networks of Uniaxial Orientation ( <i>Adv. Funct. Mater.</i> 37/2018). <i>Advanced Functional Materials</i> , 2018, 28, 1870259.	14.9	3
106	Synthesis and characterization of natural rubber-based telechelic oligomers via olefin metathesis. <i>Journal of Applied Polymer Science</i> , 2021, 138, 49899.	2.6	3
107	Reduced Pressure Drop in Viscoelastic Polydimethylsiloxane Wall Channels. <i>Langmuir</i> , 2021, , .	3.5	2
108	Biomimicry: Smart Muscle-Driven Self-Cleaning of Biomimetic Microstructures from Liquid Crystal Elastomers ( <i>Adv. Mater.</i> 43/2015). <i>Advanced Materials</i> , 2015, 27, 6770-6770.	21.0	1

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109	Imparting conformational memory for material adhesion. <i>Materials Horizons</i> , 2022, 9, 675-687.	12.2	1
110	How interface compatibility affects conductivity evolution of silver nanobelts-filled electrically conductive composites during cure and post-treatments. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 17999-18008.	2.8	0