

Jiyu Sun

List of Publications by Year in descending order

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99
papers

2,535
citations

201674

27
h-index

223800

46
g-index

100
all docs

100
docs citations

100
times ranked

2581
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of chitosan concentration on mechanical and barrier properties of corn starch/chitosan films. <i>International Journal of Biological Macromolecules</i> , 2017, 105, 1636-1643.	7.5	271
2	Characterization of silane treated and untreated natural cellulosic fibre from corn stalk waste as potential reinforcement in polymer composites. <i>Carbohydrate Polymers</i> , 2019, 218, 179-187.	10.2	137
3	Structure and mechanical properties of beetle wings: a review. <i>RSC Advances</i> , 2012, 2, 12606.	3.6	100
4	Characterization of natural cellulose fiber from corn stalk waste subjected to different surface treatments. <i>Cellulose</i> , 2019, 26, 4707-4719.	4.9	97
5	Effects of non-smooth characteristics on bionic bulldozer blades in resistance reduction against soil. <i>Journal of Terramechanics</i> , 2002, 39, 221-230.	3.1	91
6	Hydrophobic starch nanocrystals preparations through crosslinking modification using citric acid. <i>International Journal of Biological Macromolecules</i> , 2016, 91, 1186-1193.	7.5	91
7	High efficiency and low cost preparation of size controlled starch nanoparticles through ultrasonic treatment and precipitation. <i>Food Chemistry</i> , 2017, 227, 369-375.	8.2	80
8	DEM simulation of bionic subsoilers (tillage depth >40 cm) with drag reduction and lower soil disturbance characteristics. <i>Advances in Engineering Software</i> , 2018, 119, 30-37.	3.8	71
9	Controlled mechanical and swelling properties of poly(vinyl alcohol)/sodium alginate blend hydrogels prepared by freeze-thaw followed by Ca ²⁺ crosslinking. <i>Journal of Applied Polymer Science</i> , 2012, 124, 823-831.	2.6	64
10	Fracture toughness properties of three different biomaterials measured by nanoindentation. <i>Journal of Bionic Engineering</i> , 2007, 4, 11-17.	5.0	63
11	Development and characterization of alkali treated abaca fiber reinforced friction composites. <i>Composite Interfaces</i> , 2019, 26, 67-82.	2.3	63
12	Post-crosslinking modification of thermoplastic starch/PVA blend films by using sodium hexametaphosphate. <i>Carbohydrate Polymers</i> , 2012, 89, 473-477.	10.2	58
13	Reducing sliding resistance of soil against bulldozing plates by unsmoothed bionics surfaces. <i>Journal of Terramechanics</i> , 1995, 32, 303-309.	3.1	54
14	Dual modification of starch nanocrystals via crosslinking and esterification for enhancing their hydrophobicity. <i>Food Research International</i> , 2016, 87, 180-188.	6.2	52
15	Effects of non-solvent and starch solution on formation of starch nanoparticles by nanoprecipitation. <i>Starch/Staerke</i> , 2016, 68, 258-263.	2.1	50
16	Electronic Nose with an Air Sensor Matrix for Detecting Beef Freshness. <i>Journal of Bionic Engineering</i> , 2008, 5, 67-73.	5.0	47
17	The Hydraulic Mechanism of the Unfolding of Hind Wings in <i>Dorcus titanus platymelus</i> (Order: Tj ETQq1 1 0.784314 rgBT / Overlock 10	4.1	47
18	Effects of biomimetic surface designs on furrow opener performance. <i>Journal of Bionic Engineering</i> , 2009, 6, 280-289.	5.0	44

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19	Researches and developments of biomimetics in tribology. Science Bulletin, 2006, 51, 2681-2689.	1.7	42
20	Two-body abrasive wear of the surfaces of Pangolin scales. Journal of Bionic Engineering, 2007, 4, 77-84.	5.0	42
21	Physicochemical Properties of Chitosan Films Incorporated with Honeysuckle Flower Extract for Active Food Packaging. Journal of Food Process Engineering, 2017, 40, e12305.	2.9	40
22	Biomimetic design of a stubble-cutting disc using finite element analysis. Journal of Bionic Engineering, 2013, 10, 118-127.	5.0	39
23	Effect of operating conditions on size and morphology of amylose nanoparticles prepared by precipitation. Starch/Staerke, 2015, 67, 365-372.	2.1	39
24	Effects of bamboo fibers on friction performance of friction materials. Journal of Thermoplastic Composite Materials, 2013, 26, 845-859.	4.2	32
25	DEM Numerical Simulation of Abrasive Wear Characteristics of a Bioinspired Ridged Surface. Journal of Bionic Engineering, 2010, 7, 175-181.	5.0	31
26	Influence of ultrasonic treatment on formation of amylose nanoparticles prepared by nanoprecipitation. Carbohydrate Polymers, 2017, 157, 1413-1418.	10.2	31
27	Effect of surface esterification with octenyl succinic anhydride on hydrophilicity of corn starch films. Journal of Applied Polymer Science, 2009, 114, 940-947.	2.6	28
28	Detection of bisphenol A in food packaging based on fluorescent conjugated polymer PPESO3 and enzyme system. Food Chemistry, 2015, 185, 233-238.	8.2	28
29	A review of beetle hindwings: Structure, mechanical properties, mechanism and bioinspiration. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 94, 63-73.	3.1	28
30	Experimental Investigation into Soil-Cutting Performance of the Claws of Mole Rat (Scaptochirus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	5.0	26
31	Highly sensitive detection of bisphenol A in food packaging based on graphene quantum dots and peroxidase. Analytical Methods, 2015, 7, 2928-2935.	2.7	25
32	Earthworms modify microbial community structure and accelerate maize stover decomposition during vermicomposting. Environmental Science and Pollution Research, 2015, 22, 17161-17170.	5.3	25
33	Preparation and characterization of chitosan/polyvinyl porous alcohol aerogel microspheres with stable physicochemical properties. International Journal of Biological Macromolecules, 2021, 187, 614-623.	7.5	25
34	Coupled model analysis of the structure and nano-mechanical properties of dragonfly wings. IET Nanobiotechnology, 2010, 4, 10.	3.8	22
35	Increasing the width of disturbance of plough pan with bionic inspired subsoilers. Soil and Tillage Research, 2022, 220, 105356.	5.6	22
36	Design of a Bionic Blade for Vegetable Chopper. Journal of Bionic Engineering, 2017, 14, 163-171.	5.0	21

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37	Design and tests of biomimetic blades for soil-rototilling and stubble-breaking. Journal of Bionic Engineering, 2015, 12, 495-503.	5.0	20
38	Effect of microtrichia on the interlocking mechanism in the Asian ladybeetle, <i>Harmonia axyridis</i> (Coleoptera: Coccinellidae). Beilstein Journal of Nanotechnology, 2018, 9, 812-823.	2.8	20
39	Tribological and mechanical properties of pine needle fiber reinforced friction composites under dry sliding conditions. RSC Advances, 2014, 4, 36777.	3.6	19
40	Compaction Performance of Biomimetic Press Roller to Soil. Journal of Bionic Engineering, 2015, 12, 152-159.	5.0	19
41	Design and experiments of biomimetic stubble cutter. Journal of Bionic Engineering, 2016, 13, 335-343.	5.0	19
42	Effect of postcrosslinking modification with glutaraldehyde on the properties of thermoplastic starch/poly(vinyl alcohol) blend films. Journal of Applied Polymer Science, 2012, 124, 3774-3781.	2.6	18
43	Friction and wear properties of dumbbell-shaped jute fiber reinforced friction materials. Journal of Applied Polymer Science, 2014, 131, .	2.6	17
44	Study on the Interaction between Soil and the Five-Claw Combination of a Mole Using the Discrete Element Method. Applied Bionics and Biomechanics, 2018, 2018, 1-11.	1.1	17
45	Biomimetic Anti-Abrasion Surfaces of a Cone Form Component Against Soil. Journal of Bionic Engineering, 2010, 7, S36-S42.	5.0	16
46	Performance improvement of starch films reinforced with starch nanocrystals (SNCs) modified by crosslinking. Starch/Staerke, 2017, 69, 1600025.	2.1	16
47	Development and verification of a mathematical model for the specific resistance of a curved subsoiler. Biosystems Engineering, 2020, 190, 107-119.	4.3	16
48	Nanomechanical properties of the stigma of dragonfly <i>Anax parthenope</i> julius Brauer. Journal of Materials Science, 2007, 42, 2894-2898.	3.7	15
49	Effects of surfactants on size and structure of amylose nanoparticles prepared by precipitation. Bulletin of Materials Science, 2016, 39, 35-39.	1.7	15
50	Tillage force and disturbance characteristics of different geometric-shaped subsoilers via DEM. Advances in Manufacturing, 2020, 8, 392-404.	6.1	15
51	Asian ladybird folding and unfolding of hind wing: biomechanical properties of resilin in affecting the tensile strength of the folding area. Journal of Materials Science, 2020, 55, 4524-4537.	3.7	14
52	Preparation of Freeze-Dried Porous Chitosan Microspheres for the Removal of Hexavalent Chromium. Applied Sciences (Switzerland), 2021, 11, 4217.	2.5	14
53	Study of soil-solid adhesion by grey system theory*. Progress in Natural Science: Materials International, 2004, 14, 119-124.	4.4	13
54	Influence of surface photocrosslinking on properties of thermoplastic starch sheets. Journal of Applied Polymer Science, 2009, 112, 99-106.	2.6	13

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55	A review: Learning from the flight of beetles. <i>Computers in Biology and Medicine</i> , 2021, 133, 104397.	7.0	12
56	Convenient Method for Enhancing Hydrophobicity and Dispersibility of Starch Nanocrystals by Crosslinking Modification with Citric Acid. <i>International Journal of Food Engineering</i> , 2018, 14, .	1.5	11
57	Miniaturization of robots that fly on beetles' wings. <i>Science</i> , 2020, 370, 1165-1165.	12.6	11
58	Effects of microfluid in the veins of the deployable hindwings of the Asian ladybeetle on flight performance. <i>Computers in Biology and Medicine</i> , 2020, 121, 103817.	7.0	11
59	Uniform Design of Optimizing Formulation of Friction Materials with Composite Mineral Fiber (CMF) and Their Friction and Wear Behavior. <i>Applied Composite Materials</i> , 2012, 19, 161-170.	2.5	10
60	Fluid analysis of vein of beetle hindwing during unfolding action. <i>International Journal of Heat and Mass Transfer</i> , 2016, 101, 379-386.	4.8	10
61	Innovative Design and Performance Evaluation of Bionic Imprinting Toothed Wheel. <i>Applied Bionics and Biomechanics</i> , 2018, 2018, 1-11.	1.1	10
62	Effects of wool fibers on tribological behavior of friction materials. <i>Journal of Thermoplastic Composite Materials</i> , 2014, 27, 867-880.	4.2	9
63	Optimization of corn starch succinylation using response surface methodology. <i>Starch/Staerke</i> , 2014, 66, 508-514.	2.1	9
64	Design and Analysis of Bionic Cutting Blades Using Finite Element Method. <i>Applied Bionics and Biomechanics</i> , 2015, 2015, 1-7.	1.1	9
65	Bionic Design of a Potato Digging Shovel with Drag Reduction Based on the Discrete Element Method (DEM) in Clay Soil. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 7096.	2.5	9
66	Experimental investigation of vegetative environment buffers in reducing particulate matters emitted from ventilated poultry house. <i>Journal of the Air and Waste Management Association</i> , 2019, 69, 934-943.	1.9	7
67	Wettability and soil friction of the wollastonite fiber filled UHMWPE composites. <i>Journal of Materials Science</i> , 2005, 40, 1823-1825.	3.7	6
68	Nanoindentation mechanical properties and structural biomimetic models of three species of insects wings. <i>Journal Wuhan University of Technology, Materials Science Edition</i> , 2015, 30, 831-839.	1.0	6
69	Analysis of Light-mass and High-strength Veins of Hind Wing from Asian Ladybird Beetle. , 2018, , .		6
70	Research on the drag reduction mechanism of antlion (<i>Myrmeleon sagax</i>) larvae nonsmooth structural surface. <i>Microscopy Research and Technique</i> , 2020, 83, 338-344.	2.2	6
71	Traditional Sensory Evaluation and Bionic Electronic Nose as Innovative Tools for the Packaging Performance Evaluation of Chitosan Film. <i>Polymers</i> , 2020, 12, 2310.	4.5	6
72	Investigation of the potential and mechanism of clove for mitigating airborne particulate matter emission from stationary sources. <i>Journal of Bionic Engineering</i> , 2017, 14, 390-400.	5.0	5

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73	Bio-inspired Design and Evaluation of Porous Fences for Mitigating Fugitive Dust. Journal of Bionic Engineering, 2020, 17, 370-379.	5.0	5
74	The rigidizable behavior of the deployable hindwings of the Asian ladybeetle during flight. Journal of Materials Science, 2021, 56, 5670-5683.	3.7	5
75	Biomimetic Rotary Tillage Blade Design for Reduced Torque and Energy Requirement. Applied Bionics and Biomechanics, 2021, 2021, 1-16.	1.1	5
76	Tribological behavior of Gampsocleis Gratiosa foot pad against vertical flat surfaces. Journal of Bionic Engineering, 2005, 2, 187-194.	5.0	4
77	Effects of Structured Fibre on Mechanical and Tribological Properties of Phenolic Composites for Application to Friction Brakes. Polymers and Polymer Composites, 2018, 26, 315-324.	1.9	4
78	Combined effects of wrinkled vein structures and nanomechanical properties on hind wing deformation. Micron, 2021, 140, 102965.	2.2	4
79	Wing shape optimization design inspired by beetle hindwings in wind tunnel experiments. Computers in Biology and Medicine, 2021, 135, 104642.	7.0	4
80	Physical, Mechanical, and Environmental Properties of Corn Stalk Fiber Reinforced Braking Composites Prepared by Wet Granulation. Journal of Natural Fibers, 2022, 19, 14515-14524.	3.1	4
81	Statistical analysis of experimental condition effects on free abrasive wear of UHMWPE. Journal of Materials Science, 2004, 39, 3453-3456.	3.7	3
82	Evaluation of conifer and broad-leaved barriers in intercepting particulate matters in a wind tunnel. Journal of the Air and Waste Management Association, 2020, 70, 1314-1323.	1.9	3
83	EDEM Investigation and Experimental Evaluation of Abrasive Wear Resistance Performance of Bionic Micro-Thorn and Convex Hull Geometrically Coupled Structured Surface. Applied Sciences (Switzerland), 2021, 11, 6655.	2.5	3
84	Generative design of bioinspired wings based on deployable hindwings of Anomala Corpulenta Motschulsky. Micron, 2021, 151, 103150.	2.2	3
85	A new approach based on central composite design and multi-objective optimization for design of a roller-mill mechanism in a maize stubble harvester. International Journal of Advanced Manufacturing Technology, 2018, 94, 4329-4342.	3.0	2
86	Comparative research on morphology and mechanical property of integument of Rana dybowskii, Xenopus laevis and Ambystoma mexicanum. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 117, 104382.	3.1	2
87	Resistance and Consumption Reduction Mechanism of Bionic Vibration and Verification of Field Subsoiling Experiment. Applied Sciences (Switzerland), 2021, 11, 10480.	2.5	2
88	Optimising body layout design of limbed machines. Journal of Bionic Engineering, 2007, 4, 117-122.	5.0	1
89	Research of bionic design on tools with rostrum of <i>Cyrtotrachelus bugueti guer</i> (Coleoptera: Curculionidae). Microscopy Research and Technique, 2017, 80, 478-485.	2.2	1
90	Influence of polyphenyl ester and nanosized copper filler on the tribological properties of carbon fibre reinforced ultra-high-molecular-weight polyethylene composites. Journal of Thermoplastic Composite Materials, 2018, 31, 1483-1496.	4.2	1

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91	Rheological Properties of Corn Starch Dispersions in Pregelatinized Starch Solution. , 2018, , .		1
92	Bionic deployable wing design based on Asian ladybird beetle. , 2021, , .		1
93	Bionic Nonsmooth Drag Reduction Mathematical Model Construction and Subsoiling Verification. Applied Bionics and Biomechanics, 2021, 2021, 1-13.	1.1	1
94	Application of Bionic Technologies for Soil-Engaging Tillage Components in Northeast China. , 2016, , 555-578.		0
95	Morphology and mechanical performance between the skin surface of <i>Rana dybowskii</i> and <i>Bufo gargarizans</i> . Biosurface and Biotribology, 2021, 7, 133-141.	1.5	0
96	Bioinspiration of the vein structure of dragonfly wings on its flight characteristics. Microscopy Research and Technique, 2021, , .	2.2	0
97	Impact of the multi-claw combination on the soil-cutting performance of <i>Scaptochirus moschatus</i> (Mammalia, Soricomorpha, Talpidae). Rendiconti Lincei, 2021, 32, 869.	2.2	0
98	Wear Properties of Self-Fluxing Ni60AlMgB ₁₄ Composite Coating Fabricated by Plasma Spraying. Materials Transactions, 2022, 63, 63-68.	1.2	0
99	Microscopy imaging and modeling study on the mechanical properties of the primary flight feather shaft of the bean goose, <i>Anser fabalis</i> . Microscopy Research and Technique, 2022, , .	2.2	0