

Douglas J Gardner

List of Publications by Year in descending order

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82
papers

4,733
citations

94433

37
h-index

102487

66
g-index

85
all docs

85
docs citations

85
times ranked

4964
citing authors

#	ARTICLE	IF	CITATIONS
1	Adhesion and Surface Issues in Cellulose and Nanocellulose. Journal of Adhesion Science and Technology, 2008, 22, 545-567.	2.6	434
2	Drying cellulose nanofibrils: in search of a suitable method. Cellulose, 2012, 19, 91-102.	4.9	366
3	Moisture and Oxygen Barrier Properties of Cellulose Nanomaterial-Based Films. ACS Sustainable Chemistry and Engineering, 2018, 6, 49-70.	6.7	354
4	Influence of drying method on the material properties of nanocellulose I: thermostability and crystallinity. Cellulose, 2013, 20, 2379-2392.	4.9	289
5	Improving the impact strength of Poly(lactic acid) (PLA) in fused layer modeling (FLM). Polymer, 2017, 114, 242-248.	3.8	204
6	Dynamic wettability of wood. Langmuir, 1991, 7, 2498-2502.	3.5	118
7	Enhancing the interlayer tensile strength of 3D printed short carbon fiber reinforced PETG and PLA composites via annealing. Additive Manufacturing, 2019, 30, 100922.	3.0	117
8	Woodâ€“Plastic Composite Technology. Current Forestry Reports, 2015, 1, 139-150.	7.4	116
9	Alignment of Cellulose Nanofibers: Harnessing Nanoscale Properties to Macroscale Benefits. ACS Nano, 2021, 15, 3646-3673.	14.6	108
10	Preparation and characterization of transparent PMMAâ€“cellulose-based nanocomposites. Carbohydrate Polymers, 2015, 127, 381-389.	10.2	105
11	Effect of fused layer modeling (FLM) processing parameters on impact strength of cellular polypropylene. Polymer, 2017, 113, 74-80.	3.8	89
12	Fundamental aspects of wood as a component of thermoplastic composites. Journal of Vinyl and Additive Technology, 2003, 9, 96-104.	3.4	81
13	Influence of drying method on the surface energy of cellulose nanofibrils determined by inverse gas chromatography. Journal of Colloid and Interface Science, 2013, 405, 85-95.	9.4	81
14	Nanocellulose Dewatering and Drying: Current State and Future Perspectives. ACS Sustainable Chemistry and Engineering, 2020, 8, 9601-9615.	6.7	79
15	Effect of extractives and storage on the pelletizing process of sawdust. Fuel, 2010, 89, 94-98.	6.4	78
16	Recent Advances in Functional Materials through Cellulose Nanofiber Templating. Advanced Materials, 2021, 33, e2005538.	21.0	77
17	Fully Bio-Based Hybrid Composites Made of Wood, Fungal Mycelium and Cellulose Nanofibrils. Scientific Reports, 2019, 9, 3766.	3.3	69
18	Production and Characterization of Cellulose Nanofibers from Wood Pulp. Journal of Adhesion Science and Technology, 2011, 25, 709-721.	2.6	66

#	ARTICLE	IF	CITATIONS
19	Cellulose nanofibrils versus cellulose nanocrystals: Comparison of performance in flexible multilayer films for packaging applications. <i>Food Packaging and Shelf Life</i> , 2020, 23, 100464.	7.5	66
20	Thermal stability of cellulose nanomaterials and their composites with polyvinyl alcohol (PVA). <i>Journal of Thermal Analysis and Calorimetry</i> , 2016, 126, 1371-1386.	3.6	62
21	Recycling of natural fiber composites: Challenges and opportunities. <i>Resources, Conservation and Recycling</i> , 2022, 177, 105962.	10.8	62
22	Preparation and property assessment of neat lignocellulose nanofibrils (LCNF) and their composite films. <i>Cellulose</i> , 2017, 24, 2455-2468.	4.9	60
23	High-Strength Polylactic Acid (PLA) Biocomposites Reinforced by Epoxy-Modified Pine Fibers. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 13236-13247.	6.7	59
24	Maleic anhydride polypropylene modified cellulose nanofibril polypropylene nanocomposites with enhanced impact strength. <i>Polymer Composites</i> , 2016, 37, 782-793.	4.6	58
25	Biopolymer blends of polyhydroxybutyrate and polylactic acid reinforced with cellulose nanofibrils. <i>Carbohydrate Polymers</i> , 2020, 250, 116867.	10.2	56
26	Cellulose fiber/polymer adhesion: effects of fiber/matrix interfacial chemistry on the micromechanics of the interphase. <i>Journal of Adhesion Science and Technology</i> , 2006, 20, 1649-1668.	2.6	53
27	Cellulose Nanomaterials as Binders: Laminate and Particulate Systems. <i>Journal of Renewable Materials</i> , 2016, 4, 365-376.	2.2	52
28	Material Extrusion Additive Manufacturing of Wood and Lignocellulosic Filled Composites. <i>Polymers</i> , 2020, 12, 2115.	4.5	52
29	Characterization of mechanical and morphological properties of cellulose reinforced polyamide 6 composites. <i>Cellulose</i> , 2015, 22, 3199-3215.	4.9	51
30	Factors influencing contact angle measurements on wood particles by column wicking. <i>Journal of Adhesion Science and Technology</i> , 1999, 13, 1363-1374.	2.6	46
31	Review on Nonconventional Fibrillation Methods of Producing Cellulose Nanofibrils and Their Applications. <i>Biomacromolecules</i> , 2021, 22, 4037-4059.	5.4	45
32	Biosynthesis of bacterial cellulose in the presence of different nanoparticles to create novel hybrid materials. <i>Carbohydrate Polymers</i> , 2015, 129, 148-155.	10.2	44
33	Dynamic mechanical thermal analysis (DMTA) of cellulose nanofibril/nanoclay/pMDI nanocomposites. <i>Composites Part B: Engineering</i> , 2016, 90, 126-132.	12.0	44
34	Effect of fused deposition modeling process parameters on the mechanical properties of a filled polypropylene. <i>Progress in Additive Manufacturing</i> , 2018, 3, 205-214.	4.8	44
35	Surface treatments of wood-plastic composites (WPCs) to improve adhesion. <i>Journal of Adhesion Science and Technology</i> , 2006, 20, 1873-1887.	2.6	43
36	Towards industrial-scale production of cellulose nanocomposites using melt processing: A critical review on structure-processing-property relationships. <i>Composites Part B: Engineering</i> , 2020, 201, 108297.	12.0	41

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37	Dynamic Wettability of Different Machined Wood Surfaces. <i>Journal of Adhesion</i> , 2001, 76, 185-200.	3.0	40
38	Dynamic mechanical properties of extruded nylon-wood composites. <i>Polymer Composites</i> , 2008, 29, 372-379.	4.6	40
39	Cellulose nanofibril-reinforced polypropylene composites for material extrusion: Rheological properties. <i>Polymer Engineering and Science</i> , 2018, 58, 793-801.	3.1	39
40	Thermal analysis and crystallinity study of cellulose nanofibril-filled polypropylene composites. <i>Journal of Thermal Analysis and Calorimetry</i> , 2013, 113, 673-682.	3.6	36
41	Spray-Dried Cellulose Nanofibril-Reinforced Polypropylene Composites for Extrusion-Based Additive Manufacturing: Nonisothermal Crystallization Kinetics and Thermal Expansion. <i>Journal of Composites Science</i> , 2018, 2, 7.	3.0	35
42	Adhesion Theories in Wood Adhesive Bonding. <i>Reviews of Adhesion and Adhesives</i> , 2014, 2, 127-172.	3.4	35
43	Mechanisms contributing to mechanical property changes in composites of polypropylene reinforced with spray-dried cellulose nanofibrils. <i>Cellulose</i> , 2018, 25, 439-448.	4.9	33
44	Acid-base characterization of wood and selected thermoplastics. <i>Journal of Adhesion Science and Technology</i> , 2002, 16, 1625-1649.	2.6	31
45	Dry-Spun Neat Cellulose Nanofibril Filaments: Influence of Drying Temperature and Nanofibril Structure on Filament Properties. <i>Polymers</i> , 2017, 9, 392.	4.5	31
46	Production and Characterization of Laminates of Paper and Cellulose Nanofibrils. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 25520-25528.	8.0	30
47	Contribution of printing parameters to the interfacial strength of polylactic acid (PLA) in material extrusion additive manufacturing. <i>Progress in Additive Manufacturing</i> , 2018, 3, 165-171.	4.8	30
48	Characterizing the mechanism of improved adhesion of modified wood plastic composite (WPC) surfaces. <i>Journal of Adhesion Science and Technology</i> , 2007, 21, 1097-1116.	2.6	28
49	Viscoelastic and thermal analysis of lignocellulosic material filled polypropylene bio-composites. <i>Journal of Thermal Analysis and Calorimetry</i> , 2009, 98, 553-558.	3.6	27
50	Reinforcement of natural fiber yarns by cellulose nanomaterials: A multi-scale study. <i>Industrial Crops and Products</i> , 2018, 111, 471-481.	5.2	27
51	Towards a cellulose-based society: opportunities and challenges. <i>Cellulose</i> , 2021, 28, 4511-4543.	4.9	27
52	A new model to determine contact angles on swelling polymer particles by the column wicking method. <i>Journal of Adhesion Science and Technology</i> , 2000, 14, 301-314.	2.6	25
53	Effect of wettability and surface free energy of collection substrates on the structure and morphology of dry-spun cellulose nanofibril filaments. <i>Cellulose</i> , 2018, 25, 6305-6317.	4.9	25
54	Wood Composite Protection. <i>ACS Symposium Series</i> , 2003, , 399-419.	0.5	24

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55	Closed-loop recycling of polyamide12 powder from selective laser sintering into sustainable composites. <i>Journal of Cleaner Production</i> , 2018, 195, 765-772.	9.3	24
56	Dewatering Behavior of a Wood-Cellulose Nanofibril Particulate System. <i>Scientific Reports</i> , 2019, 9, 14584.	3.3	24
57	Electrospinning of Cellulose Nanocrystal-Filled Poly (Vinyl Alcohol) Solutions: Material Property Assessment. <i>Nanomaterials</i> , 2019, 9, 805.	4.1	24
58	Dispersion evaluation of microcrystalline cellulose/cellulose nanofibril-filled polypropylene composites using thermogravimetric analysis. <i>Journal of Thermal Analysis and Calorimetry</i> , 2011, 103, 1007-1015.	3.6	22
59	Thermal properties of spray-dried cellulose nanofibril-reinforced polypropylene composites from extrusion-based additive manufacturing. <i>Journal of Thermal Analysis and Calorimetry</i> , 2019, 136, 1069-1077.	3.6	22
60	Pretreatment of lignocellulosic feedstocks for cellulose nanofibril production. <i>Cellulose</i> , 2022, 29, 4835-4876.	4.9	22
61	Aqueous Polymer Modification of Cellulose Nanofibrils by Grafting Through a Reactive Methacrylate Group. <i>Macromolecular Rapid Communications</i> , 2021, 42, e2000531.	3.9	21
62	Flexible polyurethane foams reinforced with organic and inorganic nanofillers. <i>Journal of Applied Polymer Science</i> , 2021, 138, 49983.	2.6	20
63	Forced Air Plasma Treatment (FAPT) of Hybrid Wood Plastic Composite (WPC) Fiber Reinforced Plastic (FRP) Surfaces. <i>Composite Interfaces</i> , 2009, 16, 847-867.	2.3	19
64	Properties of Wood Plastic Composites Manufactured from Two Different Wood Feedstocks: Wood Flour and Wood Pellets. <i>Polymers</i> , 2021, 13, 2769.	4.5	18
65	Drying cellulose-based materials containing copper nanoparticles. <i>Cellulose</i> , 2015, 22, 2665-2681.	4.9	17
66	Surface energetics and acid-base character of sized and unsized paper handsheets. <i>Journal of Adhesion Science and Technology</i> , 1995, 9, 1403-1411.	2.6	16
67	Morphological properties of impact fracture surfaces and essential work of fracture analysis of cellulose nanofibril-filled polypropylene composites. <i>Journal of Applied Polymer Science</i> , 2013, 128, 3064-3076.	2.6	16
68	Recycled Cardboard Containers as a Low Energy Source for Cellulose Nanofibrils and Their Use in Poly(lactide) Nanocomposites. <i>ACS Sustainable Chemistry and Engineering</i> , 2021, 9, 13460-13470.	6.7	14
69	Transparent Multifunctional Cellulose Nanocrystal Films Prepared Using Trivalent Metal Ion Exchange for Food Packaging. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 9419-9430.	6.7	14
70	Bonding Surface Activated Hardwood Flakeboard with Phenol-Formaldehyde Resin. <i>Holzforschung</i> , 1991, 45, 215-222.	1.9	12
71	Elasto-Plastic Finite Element Modeling of Short Carbon Fiber Reinforced 3D Printed Acrylonitrile Butadiene Styrene Composites. <i>Jom</i> , 2020, 72, 475-484.	1.9	12
72	Inverse Gas Chromatography for Determining the Surface Free Energy and Acid-Base Chemical Characteristics of a Water Extracted Hardwood (<i>Acer rubrum</i>). <i>Journal of Wood Chemistry and Technology</i> , 2009, 29, 11-23.	1.7	9

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73	Polymer Nanocomposites from the Surface Energy Perspective. <i>Reviews of Adhesion and Adhesives</i> , 2013, 1, 175-215.	3.4	9
74	X-ray photoelectron spectroscopy of wood treated with hydroxymethylated resorcinol. <i>International Journal of Adhesion and Adhesives</i> , 2006, 26, 550-554.	2.9	8
75	Surface properties of silicone-containing block-graft copolymer/polystyrene systems. <i>Journal of Adhesion Science and Technology</i> , 1999, 13, 1017-1027.	2.6	7
76	An Experimental Method for Three-Dimensional Dynamic Contact Angle Analysis. <i>Journal of Adhesion Science and Technology</i> , 2012, 26, 2199-2215.	2.6	7
77	Recyclable grease-proof cellulose nanocomposites with enhanced water resistance for food serving applications. <i>Cellulose</i> , 2022, 29, 5623-5643.	4.9	7
78	Bonding Surface Activated Hardwood Flakeboard with Phenol-formaldehyde Resin. I. Physical and Mechanical Properties. <i>Holzforschung</i> , 1990, 44, 201-206.	1.9	6
79	Comparing mechanical properties of impact modified polypropylene-copolymer (IMPP) from injection molding (IM) and fused layer modeling (FLM) processes. <i>Rapid Prototyping Journal</i> , 2020, 26, 993-1003.	3.2	6
80	Surface energy of cellulosic materials: The effect of particle morphology, particle size, and hydroxyl number. <i>Tappi Journal</i> , 2015, 14, 565-576.	0.5	5
81	Southern pine impregnated with silicate solution containing cellulose nanofibrils. <i>Holzforschung</i> , 2012, 66, 735-737.	1.9	3
82	Step aside, aluminum honeycomb. <i>Science</i> , 2021, 374, 400-401.	12.6	0