John W Gillespie

List of Publications by Year
in descending order

95 papers	3,554 citations	126907 33 h-index	149698 56 g-index
97 all docs	97 docs citations	97 times ranked	2333 citing authors

#	Article	IF	Citations
1	Depth of penetration of DyneemaÂ® HB26 hard ballistic laminates. Journal of Thermoplastic Composite Materials, 2023, 36, 1361-1381.	4.2	9
2	Perforation mechanics of UHMWPE soft ballistic sub-laminate and soft ballistic armor pack: A finite element study. Journal of Thermoplastic Composite Materials, 2023, 36, 932-960.	4.2	6
3	Design and optimization of oven vacuum bag (OVB) processing for void air removal in high-performance thermoplastic composites. Journal of Thermoplastic Composite Materials, 2022, 35, 2493-2511.	4.2	3
4	Investigation of normal, lateral, and oblique impact of microscale projectiles into unidirectional glass/epoxy composites. Defence Technology, 2022, 18, 1960-1978.	4.2	4
5	A methodology for predicting processing induced thermal residual stress in thermoplastic composite at the microscale. Composites Part B: Engineering, 2022, 231, 109562.	12.0	10
6	Mechanical properties and damage analysis of S-glass: A reactive molecular dynamics study. Composites Part B: Engineering, 2022, 234, 109706.	12.0	12
7	Response of thin flexible compression columns with self-reacting lateral constraint. Journal of Composite Materials, 2022, 56, 1107-1122.	2.4	0
8	Mesoscale modeling of ballistic impact experiments on a single layer of plain weave composite. Composites Part B: Engineering, 2022, 235, 109753.	12.0	22
9	Depth of penetration experiments of S-2 glass/epoxy composites: A new Experimental Methodology in determining the rate dependent dynamic crush strength of composites. Composites Part B: Engineering, 2022, , 109917.	12.0	2
10	Strain-rate dependent mode I cohesive traction laws for glass fiber-epoxy interphase using molecular dynamics simulations. Composites Part B: Engineering, 2022, 237, 109877.	12.0	15
11	Influence of relative humidity on charge stability of ozone treated polystyrene particles. Journal of Applied Polymer Science, 2021, 138, 49900.	2.6	2
12	Glass fiber-epoxy interactions in the presence of silane: A molecular dynamics study. Applied Surface Science, 2021, 542, 148738.	6.1	34
13	Prediction of equilibrium spacing between charged polymer particles in contact with a carbon fiber. Journal of Electrostatics, 2021, 111, 103577.	1.9	5
14	Development of Mg/Al/Si/O ReaxFF Parameters for Magnesium Aluminosilicate Glass Using an Artificial Neural Network-Assisted Genetic Algorithm. Journal of Physical Chemistry C, 2021, 125, 18380-18394.	3.1	13
15	Influence of material and process parameters on microstructure evolution during the fabrication of carbonâ€“carbon composites: a review. Journal of Materials Science, 2021, 56, 17877-17914.	3.7	16
16	Probabilistic Modeling of Discrete Structural Response with Application to Composite Plate Penetration Models. Journal of Engineering Mechanics - ASCE, 2021, 147, .	2.9	10
17	Experimental investigation of dry powder coating processing parameters on the polystyrene particle's distribution on the surface of carbon fibers. Powder Technology, 2021, 393, 461-470.	4.2	7
18	Strain rate-dependent large deformation inelastic behavior of an epoxy resin. Journal of Composite Materials, 2020, 54, 71-87.	2.4	22

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19	Rate dependent mode II traction separation law for S-2 glass/epoxy interface using a microdroplet test method. Composites Part A: Applied Science and Manufacturing, 2019, 124, 105487.	7.6	23
20	Stochastic micromechanical modeling of transverse punch shear damage behavior of unidirectional composites. Journal of Composite Materials, 2019, 53, 1197-1213.	2.4	5
21	Failure of DyneemaÂ® SK76 single fiber under multiaxial transverse loading. Textile Reseach Journal, 2019, 89, 2659-2673.	2.2	8
22	Effects of surface crack on the mechanical properties of Silica: A molecular dynamics simulation study. Engineering Fracture Mechanics, 2019, 207, 99-108.	4.3	53
23	Investigation of the axial compressive behavior of Kevlar fibers using the dynamic loop test. Textile Reseach Journal, 2019, 89, 3825-3838.	2.2	0
24	Assessment and quantification of ballistic impact damage of a single-layer woven fabric composite. International Journal of Damage Mechanics, 2019, 28, 249-269.	4.2	15
25	Experimental Investigation of Strain Rate and Temperature Dependent Response of an Epoxy Resin Undergoing Large Deformation. Journal of Dynamic Behavior of Materials, 2018, 4, 114-128.	1.7	31
26	Tailored glass fiber interphases via electrophoretic deposition of carbon nanotubes: Fiber and interphase characterization. Composites Science and Technology, 2018, 166, 131-139.	7.8	39
27	A molecular dynamics study of the effects of hydrogen bonds on mechanical properties of KevlarÂ® crystal. Computational Materials Science, 2018, 148, 286-300.	3.0	27
28	Influence of multiaxial loading on the failure of Kevlar KM2 single fiber. Textile Reseach Journal, 2018, 88, 483-498.	2.2	17
29	Characterization of interlayer air permeability of thermoplastic prepreg stacks. Journal of Composite Materials, 2018, 52, 731-745.	2.4	8
30	Dynamic effects of a single fiber break in unidirectional glass fiber-reinforced polymer composites: Effects of matrix plasticity. Journal of Composite Materials, 2018, 52, 1873-1886.	2.4	15
31	Modeling the Fibrillation of KevlarÂ® KM2 Single Fibers Subjected to Transverse Compression. Fibers and Polymers, 2018, 19, 1479-1489.	2.1	8
32	Modeling transverse impact on UHMWPE soft ballistic sub-laminate. Journal of Thermoplastic Composite Materials, 2017, 30, 1441-1483.	4.2	18
33	Recent advances in modeling and experiments of Kevlar ballistic fibrils, fibers, yarns and flexible woven textile fabrics â€“ a review. Textile Reseach Journal, 2017, 87, 984-1010.	2.2	98
34	Void reduction of high-performance thermoplastic composites via oven vacuum bag processing. Journal of Composite Materials, 2017, 51, 4219-4230.	2.4	27
35	Modeling of glycidoxypropyltrimethoxy silane compositions using molecular dynamics simulations. Computational Materials Science, 2017, 140, 82-88.	3.0	8
36	Silicaâ€“silane coupling agent interphase properties using molecular dynamics simulations. Journal of Materials Science, 2017, 52, 12981-12998.	3.7	32

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37	Dynamic effects of single fiber break in unidirectional glass fiber-reinforced composites. Journal of Composite Materials, 2017, 51, 1307-1320.	2.4	23
38	Molecular Dynamics Modeling of the Effect of Axial and Transverse Compression on the Residual Tensile Properties of Ballistic Fiber. Fibers, 2017, 5, 7.	4.0	22
39	Role of Inelastic Transverse Compressive Behavior and Multiaxial Loading on the Transverse Impact of Kevlar KM2 Single Fiber. Fibers, 2017, 5, 9.	4.0	11
40	Molecular dynamics simulations of the structure and mechanical properties of silica glass using ReaxFF. Journal of Materials Science, 2016, 51, 10139-10159.	3.7	102
41	High rate test method for fiber-matrix interface characterization. Polymer Testing, 2016, 52, 174-183.	4.8	25
42	Transverse compression behavior of Kevlar KM2 single fiber. Composites Part A: Applied Science and Manufacturing, 2016, 81, 271-281.	7.6	52
43	Tailoring Interfacial Properties by Controlling Carbon Nanotube Coating Thickness on Glass Fibers Using Electrophoretic Deposition. ACS Applied Materials & Interfaces, 2016, 8, 1501-1510.	8.0	92
44	A model to describe stickâ€“slip transition time during ultrasonic consolidation. International Journal of Advanced Manufacturing Technology, 2015, 79, 1931-1937.	3.0	10
45	Experimental investigation of the role of frictional yarn pull-out and windowing on the probabilistic impact response of kevlar fabrics. Composites Part B: Engineering, 2015, 68, 215-229.	12.0	74
46	Transmission electron microscopy of an ultrasonically consolidated copperâ€“aluminum interface. Journal of Materials Research, 2014, 29, 1970-1977.	2.6	22
47	The energy dissipative mechanisms of particle-fiber interactions in a textile composite. Journal of Composite Materials, 2014, 48, 3553-3567.	2.4	7
48	On the transverse compression response of Kevlar KM2 using fiber-level finite element model. International Journal of Solids and Structures, 2014, 51, 2504-2517.	2.7	46
49	Finite element analysis of the microdroplet test method using cohesive zone model of the fiber/matrix interface. Composites Part A: Applied Science and Manufacturing, 2014, 56, 239-247.	7.6	61
50	The sub-micron scale energy dissipative deformation mechanisms of Kevlar fibrils. Journal of Materials Science, 2013, 48, 6245-6261.	3.7	12
51	The influence of surface microstructure on the scratch characteristics of Kevlar fibers. Journal of Materials Science, 2013, 48, 1292-1302.	3.7	22
52	A deterministic finite element analysis of the effects of projectile characteristics on the impact response of fully clamped flexible woven fabrics. Composite Structures, 2013, 95, 191-201.	5.8	44
53	Yarn pull-out behavior of plain woven Kevlar fabrics: Effect of yarn sizing, pullout rate, and fabric pre-tension. Composite Structures, 2013, 101, 215-224.	5.8	79
54	Predicting the nonlinear response and progressive failure of composite laminates under triaxial loading: Correlation with experimental results. Journal of Composite Materials, 2013, 47, 793-804.	2.4	10

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55	Effects of interaction volume on X-ray line-scans across an ultrasonically consolidated aluminum/copper interface. Scanning, 2013, 35, 327-335.	1.5	11
56	Multi-hit ballistic impact on S-2 glass/SC15 thick-section composites: finite element analyses. Journal of Strain Analysis for Engineering Design, 2012, 47, 495-512.	1.8	7
57	Predicting the nonlinear response and progressive failure of composite laminates under tri-axial loading. Journal of Composite Materials, 2012, 46, 2443-2459.	2.4	19
58	Nonlinear indentation of fibers. Journal of Materials Research, 2012, 27, 197-213.	2.6	30
59	Evaluation of the three-dimensional properties of Kevlar across length scales. Journal of Materials Research, 2012, 27, 1824-1837.	2.6	35
60	Ballistic impact modeling of woven fabrics considering yarn strength, friction, projectile impact location, and fabric boundary condition effects. Composite Structures, 2012, 94, 3624-3634.	5.8	92
61	Poroelasticity-III: Conditions on the Interfaces. Transport in Porous Media, 2012, 93, 597-607.	2.6	11
62	Effect of statistical yarn tensile strength on the probabilistic impact response of woven fabrics. Composites Science and Technology, 2012, 72, 320-329.	7.8	33
63	Finite element analysis of projectile size and shape effects on the probabilistic penetration response of high strength fabrics. Composite Structures, 2012, 94, 1846-1854.	5.8	42
64	Performance of bolted joints in Discontinuous Ceramic Cored Sandwich Structures â€“ Static experimental testing. Composite Structures, 2011, 93, 3175-3184.	5.8	3
65	Computational modeling of the probabilistic impact response of flexible fabrics. Composite Structures, 2011, 93, 3163-3174.	5.8	42
66	Role of friction on the thermal development in ultrasonically consolidated aluminum foils and composites. Journal of Materials Processing Technology, 2011, 211, 1864-1877.	6.3	36
67	Finite element modeling of impact, damage evolution and penetration of thick-section composites. International Journal of Impact Engineering, 2011, 38, 181-197.	5.0	158
68	Phenomenological modeling of the response of a dense colloidal suspension under dynamic squeezing flow. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 680-688.	2.4	14
69	Investigating the transient response of a shear thickening fluid using the split Hopkinson pressure bar technique. Rheologica Acta, 2010, 49, 879-890.	2.4	68
70	Local Damage Detection with the Global Fitting Method Using Operating Deflection Shape Data. Journal of Nondestructive Evaluation, 2010, 29, 25-37.	2.4	55
71	Poroelasticity-I: Governing Equations of the Mechanics of Fluid-Saturated Porous Materials. Transport in Porous Media, 2010, 84, 471-492.	2.6	29
72	An experimental investigation into the kinematics of a concentrated hard-sphere colloidal suspension during Hopkinson bar evaluation at high stresses. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 1342-1350.	2.4	29

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73	Multiscale modeling of the impact of textile fabrics based on hybrid element analysis. International Journal of Impact Engineering, 2010, 37, 1056-1071.	5.0	57
74	Mechanics of discontinuous ceramic tile core sandwich structure: Influence of thermal and interlaminar stresses. Composite Structures, 2010, 92, 164-172.	5.8	11
75	On the finite element analysis of woven fabric impact using multiscale modeling techniques. International Journal of Solids and Structures, 2010, 47, 2300-2315.	2.7	97
76	Modeling VARTM Processes with Hybrid Media Incorporating Gravity Effects. Journal of Composite Materials, 2009, 43, 2903-2920.	2.4	8
77	Local Damage Detection with the Global Fitting Method Using Mode Shape Data in Notched Beams. Journal of Nondestructive Evaluation, 2009, 28, 63-74.	2.4	54
78	Spectroscopic analysis and kinetics of intermolecular hydrogen bond formation in polyâ€pyridobisimidazole (M5) fiber. Journal of Polymer Science, Part B: Polymer Physics, 2009, 47, 1809-1824.	2.1	8
79	Interfacial behavior of high performance organic fibers. Polymer, 2009, 50, 1228-1235.	3.8	91
80	Effect of hydrogen bonding and moisture cycling on the compressive performance of poly-pyridobisimidazole (M5) fiber. Polymer, 2009, 50, 2900-2905.	3.8	23
81	Development of the split-Hopkinson pressure bar technique for viscous fluid characterization. Polymer Testing, 2009, 28, 891-900.	4.8	23
82	Compressive Strength Analysis for High Performance Fibers with Different Modulus in Tension and Compression. Journal of Composite Materials, 2009, 43, 661-674.	2.4	67
83	Assessment of compressive properties of high performance organic fibers. Composites Science and Technology, 2007, 67, 2786-2794.	7.8	65
84	Modeling the Effect of Fiber Diameter and Fiber Bundle Count on Tow Impregnation during Liquid Molding Processes. Journal of Composite Materials, 2005, 39, 1045-1065.	2.4	43
85	Vacuum Assisted Resin Transfer Molding (VARTM) Process Incorporating Gravitational Effects: A Closed-form Solution. Journal of Composite Materials, 2005, 39, 2227-2242.	2.4	21
86	Hopkinson bar experimental technique: A critical review. Applied Mechanics Reviews, 2004, 57, 223-250.	10.1	454
87	A Study on the Induction Heating of Conductive Fiber Reinforced Composites. Journal of Composite Materials, 2002, 36, 401-421.	2.4	89
88	High Strain-Rate Behavior of Plain-Weave S-2 Glass/Vinyl Ester Composites. Journal of Composite Materials, 2001, 35, 1201-1228.	2.4	48
89	An Analysis of Mechanisms Governing Fusion Bonding of Thermoplastic Composites. Journal of Thermoplastic Composite Materials, 1998, 11, 338-363.	4.2	97
90	Transverse Cracking of Composite Laminates with Interleaves: A Variational Approach. Journal of Reinforced Plastics and Composites, 1997, 16, 1066-1092.	3.1	7

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91	In situ examination of water diffusion to the polypropylene-silane interface using FTIR-ATR. Journal of Applied Polymer Science, 1997, 64, 1971-1985.	2.6	27
92	The Effects and Non-Destructive Evaluation of Defects in Thermoplastic Compression-Loaded Composite Cylinders. Journal of Thermoplastic Composite Materials, 1995, 8, 109-136.	4.2	13
93	Literature Review-Effects of Hydrostatic Pressure on the Mechanical Behavior of Composite Materials. Journal of Thermoplastic Composite Materials, 1995, 8, 375-409.	4.2	54
94	Toughness properties of a three-dimensional carbon-epoxy composite. Journal of Materials Science, 1989, 24, 4168-4175.	3.7	102
95	Automated detection and quantification of transverse cracks on woven composites. Journal of Reinforced Plastics and Composites, 0, , 073168442110176.	3.1	3