Mickael Castro

List of Publications by Year
in descending order

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85 papers	3,985 citations	87886 38 h-index	118840 62 g-index
86 all docs	86 docs citations	86 times ranked	4425 citing authors

#	Article	IF	Citations
1	3D printing of wood fibre biocomposites: From mechanical to actuation functionality. Materials and Design, 2016, 96, 106-114.	7.0	368
2	3D printing of continuous flax fibre reinforced biocomposites for structural applications. Materials and Design, 2019, 180, 107884.	7.0	171
3	Carbon nanotubes/poly(Îµ-caprolactone) composite vapour sensors. Carbon, 2009, 47, 1930-1942.	10.3	157
4	A review of 3D and 4D printing of natural fibre biocomposites. Materials and Design, 2020, 194, 108911.	7.0	146
5	Poly(lactic acid)â€“multi-wall carbon nanotube conductive biopolymer nanocomposite vapour sensors. Sensors and Actuators B: Chemical, 2012, 161, 621-628.	7.8	127
6	Conductive Polymer nano-bioComposites (CPC): Chitosan-carbon nanoparticle a good candidate to design polar vapour sensors. Sensors and Actuators B: Chemical, 2009, 138, 138-147.	7.8	115
7	Graphene quantum resistive sensing skin for the detection of alteration biomarkers. Journal of Materials Chemistry, 2012, 22, 21754.	6.7	115
8	An e-nose made of carbon nanotube based quantum resistive sensors for the detection of eighteen polar/nonpolar VOC biomarkers of lung cancer. Journal of Materials Chemistry B, 2013, 1, 4563.	5.8	115
9	Development of poly(isobutylene-co-isoprene)/reduced graphene oxide nanocomposites for barrier, dielectric and sensingapplications. Materials Letters, 2013, 96, 109-112.	2.6	110
10	Novel e-nose for the discrimination of volatile organic biomarkers with an array of carbon nanotubes (CNT) conductive polymer nanocomposites (CPC) sensors. Sensors and Actuators B: Chemical, 2011, 159, 213-219.	7.8	103
11	Conductive bio-Polymer nano-Composites (CPC): Chitosan-carbon nanotube transducers assembled via spray layer-by-layer for volatile organic compound sensing. Talanta, 2010, 81, 908-915.	5.5	101
12	Graphene and metal organic frameworks (MOFs) hybridization for tunable chemoresistive sensors for detection of volatile organic compounds (VOCs) biomarkers. Carbon, 2020, 159, 333-344.	10.3	97
13	Hygromechanical properties of 3D printed continuous carbon and glass fibre reinforced polyamide composite for outdoor structural applications. Additive Manufacturing, 2019, 26, 94-105.	3.0	89
14	Enhancing the sensitivity of graphene/polyurethane nanocomposite flexible piezo-resistive pressure sensors with magnetite nano-spacers. Carbon, 2016, 108, 450-460.	10.3	87
15	Vapour sensing with conductive polymer nanocomposites (CPC): Polycarbonate-carbon nanotubes transducers with hierarchical structure processed by spray layer by layer. Sensors and Actuators B: Chemical, 2009, 140, 451-460.	7.8	82
16	Effects of Cysteine Proteases on the Structural and Mechanical Properties of Collagen Fibers. Journal of Biological Chemistry, 2013, 288, 5940-5950.	3.4	80
17	Non-intrusive health monitoring of infused composites with embedded carbon quantum piezo-resistive sensors. Composites Science and Technology, 2016, 123, 286-294.	7.8	71
18	Novel architecture of carbon nanotube decorated poly(methyl methacrylate) microbead vapour sensors assembled by spray layer by layer. Journal of Materials Chemistry, 2011, 21, 4142.	6.7	67

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19	Sensing Skin for Strain Monitoring Made of PCâ€“CNT Conductive Polymer Nanocomposite Sprayed Layer by Layer. ACS Applied Materials & Interfaces, 2012, 4, 3508-3516.	8.0	65
20	Bioinspired Electroâ€Thermoâ€Hygro Reversible Shapeâ€Changing Materials by 4D Printing. Advanced Functional Materials, 2019, 29, 1903280.	14.9	64
21	Engineering of graphene/epoxy nanocomposites with improved distribution of graphene nanosheets for advanced piezo-resistive mechanical sensing. Journal of Materials Chemistry C, 2016, 4, 3422-3430.	5.5	62
22	Grapheneâ€“Fe3O4/PILâ€“PEDOT for the design of sensitive and stable quantum chemo-resistive VOC sensors. Carbon, 2014, 74, 104-112.	10.3	59
23	Experimental and theoretical description of low frequency viscoelastic behaviour in immiscible polymer blends. Polymer, 2004, 45, 4095-4104.	3.8	58
24	Natural fibres actuators for smart bio-inspired hygromorph biocomposites. Smart Materials and Structures, 2017, 26, 125009.	3.5	58
25	Moisture-induced self-shaping flax-reinforced polypropylene biocomposite actuator. Industrial Crops and Products, 2015, 71, 1-6.	5.2	55
26	Tailoring the mechanical properties of 3D-printed continuous flax/PLA biocomposites by controlling the slicing parameters. Composites Part B: Engineering, 2020, 203, 108474.	12.0	55
27	Hybrid Films of Graphene and Carbon Nanotubes for High Performance Chemical and Temperature Sensing Applications. Small, 2015, 11, 3485-3493.	10.0	54
28	Evaluation of force generation mechanisms in natural, passive hydraulic actuators. Scientific Reports, 2016, 6, 18105.	3.3	53
29	Tailoring selectivity of sprayed carbon nanotube sensors (CNT) towards volatile organic compounds (VOC) with surfactants. Sensors and Actuators B: Chemical, 2015, 220, 840-849.	7.8	52
30	Controlled conductive junction gap for chitosanâ€“carbon nanotube quantum resistive vapour sensors. Journal of Materials Chemistry, 2012, 22, 10656.	6.7	50
31	High stability silver nanoparticlesâ€“graphene/poly(ionic liquid)-based chemoresistive sensors for volatile organic compoundsâ€™ detection. Analytical and Bioanalytical Chemistry, 2014, 406, 3995-4004.	3.7	50
32	Ultrasensitive QRS made by supramolecular assembly of functionalized cyclodextrins and graphene for the detection of lung cancer VOC biomarkers. Journal of Materials Chemistry B, 2014, 2, 6571-6579.	5.8	48
33	Fine control of carbon nanotubesâ€“polyelectrolyte sensors sensitivity by electrostatic layer by layer assembly (eLbL) for the detection of volatile organic compounds (VOC). Talanta, 2012, 88, 396-402.	5.5	47
34	Flax/polypropylene composites for lightened structures: Multiscale analysis of process and fibre parameters. Materials and Design, 2015, 87, 331-341.	7.0	47
35	Polyaniline nanoparticleâ€“carbon nanotube hybrid network vapour sensors with switchable chemo-electrical polarity. Nanotechnology, 2010, 21, 255501.	2.6	46
36	Spray layer-by-layer assembly of POSS functionalized CNT quantum chemo-resistive sensors with tuneable selectivity and ppm resolution to VOC biomarkers. Sensors and Actuators B: Chemical, 2016, 222, 362-373.	7.8	42

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37	Humidity responsive actuation of bioinspired hygromorph biocomposites (HBC) for adaptive structures. Composites Part A: Applied Science and Manufacturing, 2019, 116, 36-45.	7.6	42
38	Green carbon nanostructured quantum resistive sensors to detect volatile biomarkers. Sustainable Materials and Technologies, 2018, 16, 1-11.	3.3	40
39	Co-continuity interval in immiscible polymer blends by dynamic mechanical spectroscopy in the molten and solid state. Rheologica Acta, 2004, 43, 417-426.	2.4	38
40	Tailoring the chemo-resistive response of self-assembled polysaccharide-CNT sensors by chain conformation at tunnel junctions. Carbon, 2012, 50, 3627-3634.	10.3	38
41	Flax fibers â€“ epoxy with embedded nanocomposite sensors to design lightweight smart bio-composites. Nanocomposites, 2016, 2, 125-134.	4.2	37
42	Thermal degradation during melt processing of poly(ethylene oxide), poly(vinylidenefluoride-co-hexafluoropropylene) and their blends in the presence of additives, for conducting applications. Polymer Degradation and Stability, 2006, 91, 634-640.	5.8	36
43	Chemo-sensitivity of latex-based films containing segregated networks of carbon nanotubes. Sensors and Actuators B: Chemical, 2011, 155, 28-36.	7.8	36
44	4D printing of continuous flax-fibre based shape-changing hygromorph biocomposites: Towards sustainable metamaterials. Materials and Design, 2021, 211, 110158.	7.0	35
45	Hygromorph BioComposites: Effect of fibre content and interfacial strength on the actuation performances. Industrial Crops and Products, 2017, 99, 142-149.	5.2	33
46	Hybrid film of chemically modified graphene and vapor-phase-polymerized PEDOT for electronic nose applications. Organic Electronics, 2013, 14, 2789-2794.	2.6	32
47	Crossed investigation of damage in composites with embedded quantum resistive strain sensors (sQRS), acoustic emission (AE) and digital image correlation (DIC). Composites Science and Technology, 2018, 160, 79-85.	7.8	32
48	Cocontinuity in immiscible polymer blends: A gel approach. Journal of Rheology, 2005, 49, 149-160.	2.6	31
49	Flexible latexâ€"polyaniline segregated network composite coating capable of measuring large strain on epoxy. Smart Materials and Structures, 2013, 22, 015008.	3.5	31
50	Sulfonated poly(ether ether ketone) [SPEEK] nanocomposites based on hybrid nanocarbons for the detection and discrimination of some lung cancer VOC biomarkers. Journal of Materials Chemistry B, 2017, 5, 348-359.	5.8	31
51	Study of hygroscopic stresses in asymmetric biocomposite laminates. Composites Science and Technology, 2019, 169, 7-15.	7.8	29
52	Comparison of methods to measure yield stress of soft solids. Journal of Rheology, 2010, 54, 81-94.	2.6	28
53	3D sprayed polyurethane functionalized graphene / carbon nanotubes hybrid architectures to enhance the piezo-resistive response of quantum resistive pressure sensors. Carbon, 2020, 168, 564-579.	10.3	28
54	Selectivity of Chemoresistive Sensors Made of Chemically Functionalized Carbon Nanotube Random Networks for Volatile Organic Compounds (VOC). Chemosensors, 2014, 2, 26-40.	3.6	27

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55	Upgrading of diesel engine exhaust waste into onion-like carbon nanoparticles for integrated degradation sensing in nano-biocomposites. New Journal of Chemistry, 2021, 45, 3675-3682.	2.8	26
56	Chemical Sensors Based on New Polyamides Biobased on (Z) Octadecâ€9â€Enedioic Acid and Î²â€Cyclodextrin. Macromolecular Chemistry and Physics, 2016, 217, 1620-1628.	2.2	18
57	Robustness of carbon nanotube-based sensor to probe composites' interfacial damage in situ. Journal of Composite Materials, 2016, 50, 109-113.	2.4	15
58	Simple technique for the simultaneous determination of solvent diffusion coefficient in polymer by Quantum Resistive Sensors and FTâ€IR spectroscopy. Polymers for Advanced Technologies, 2013, 24, 487-494.	3.2	12
59	vQRS Based on Hybrids of CNT with PMMA-POSS and PS-POSS Copolymers to Reach the Sub-PPM Detection of Ammonia and Formaldehyde at Room Temperature Despite Moisture. Chemosensors, 2017, 5, 22.	3.6	12
60	Influence of Water Molecules on the Detection of Volatile Organic Compounds (VOC) Cancer Biomarkers by Nanocomposite Quantum Resistive Vapor Sensors vQRS. Chemosensors, 2018, 6, 64.	3.6	12
61	Matrix stiffness: A key parameter to control hydro-elasticity and morphing of 3D printed biocomposite. Composites Part A: Applied Science and Manufacturing, 2022, 156, 106882.	7.6	12
62	Multifunctional Carbon Nanotubes Enhanced Structural Composites with Improved Toughness and Damage Monitoring. Journal of Composites Science, 2019, 3, 109.	3.0	10
63	Characterization of a new bioâ€based and biodegradable blends of poly(3â€hydroxybutyrateâ€coâ€3â€hydroxyvalerate) and poly(butyleneâ€coâ€succinateâ€coâ€adipate). Journal of Applied Polymer Science, 2022, 139, .	2.6	10
64	Effect of radial flow in the die entrance region on gross melt fracture of PDMS extrudate. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 661-666.	2.4	9
65	Vapor and Pressure Sensors Based on Cellulose Nanofibers and Carbon Nanotubes Aerogel with Thermoelectric Properties. Journal of Renewable Materials, 2017, , .	2.2	8
66	A Review of Nanocarbon-Based Solutions for the Structural Health Monitoring of Composite Parts Used in Renewable Energies. Journal of Composites Science, 2022, 6, 32.	3.0	8
67	Gas barrier efficiency of clay- and graphene-poly(isobutylene-co-isoprene) nanocomposite membranes evidenced by a quantum resistive vapor sensor cell. Nanocomposites, 2015, 1, 96-105.	4.2	7
68	Interfacial nanocomposite sensors (sQRS) for the core monitoring of polymer compositesâ€™ fatigue and damage analysis. Nanocomposites, 2018, 4, 69-79.	4.2	7
69	Enhanced detection of volatile organic compounds (VOCs) by caffeine modified carbon nanotube junctions. Nano Structures Nano Objects, 2020, 24, 100578.	3.5	6
70	Polymerâ€“carbon nanotube conductive nanocomposites for sensing. , 2011, , 760-803.		5
71	Characterization of metal, semiconductor, and metal-semiconductor coreâ€“shell nanostructures. , 2017, , 51-77.		5
72	Impact and strain monitoring in glass fiber reinforced epoxy laminates with embedded quantum resistive sensors (QRSs). Composites Science and Technology, 2022, 221, 109352.	7.8	5

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73	Thermo- and chemo-electrical behavior of carbon nanotube filled co-continuous conductive polymer nanocomposites (CPC) to develop amperometric sensors. Materials Research Society Symposia Proceedings, 2008, 1143, 51401.	0.1	4
74	Electronic noses for VOCs detection based on the nanoparticles hybridized graphene composites. , 2012, , .		4
75	Tri-molybdenum phosphide (Mo3P) and multi-walled carbon nanotube junctions for volatile organic compounds (VOCs) detection. Applied Physics Letters, 2021, 119, .	3.3	4
76	Strain Mapping and Damage Tracking in Carbon Fiber Reinforced Epoxy Composites during Dynamic Bending Until Fracture with Quantum Resistive Sensors in Array. Journal of Composites Science, 2021, 5, 60.	3.0	3
77	Boosting Selectivity and Sensitivity to Biomarkers of Quantum Resistive Vapour Sensors Used for Volatolomics with Nanoarchitectured Carbon Nanotubes or Graphene Platelets Connected by Fullerene Junctions. Chemosensors, 2021, 9, 66.	3.6	3
78	An Electronic Nose Prototype for the On-Field Detection of Nerve Agents. , 2018, , .		2
79	Influence of carbon nanotube grafting on chemo-electrical properties of Conductive Polymer nanoComposites. Materials Research Society Symposia Proceedings, 2008, 1143, 20201.	0.1	1
80	Conducting Polymer nanoComposites (CPC): Nanocharacterisation of layer by layer sprayed PMMA-CNT vapour sensors by Atomic force Microscopy in current Sensing Mode (CS-AFM). Materials Research Society Symposia Proceedings, 2008, 1143, 20601.	0.1	1
81	Graphene Filled Polymers for Vapor/Gas Sensor Applications. , 2015, , 253-275.		1
82	A functionalized carbon nanotube based electronic nose for the detection of nerve agents. , 2018, , .		1
83	Development of Nanocomposites Quantum Resistive Sensors (QRS) for the Structural Health Monitoring (SHM) of Composite for Wind Turbine Applications. , 0, , .		1
84	Biocomposites with Asymmetric Stacking for the Study of Hygro-mechanical Couplings. Revue Des Composites Et Des Materiaux Avances, 2019, 29, 243-252.	0.6	1
85	A Review of In-Service Coating Health Monitoring Technologies: Towards â€œSmartâ€•Neural-Like Networks for Condition-Based Preventive Maintenance. Coatings, 2022, 12, 565.	2.6	0