Nicholas J Dunne

List of Publications by Year
in descending order

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118 papers	4,136 citations	117453 34 h-index	133063 59 g-index
120 all docs	120 docs citations	120 times ranked	5182 citing authors

#	Article	IF	Citations
1	Effect of microporosity on scaffolds for bone tissue engineering. International Journal of Energy Production and Management, 2018, 5, 115-124.	1.9	243
2	Printability of calcium phosphate: Calcium sulfate powders for the application of tissue engineered bone scaffolds using the 3D printing technique. Materials Science and Engineering C, 2014, 38, 1-10.	3.8	203
3	Critical review: Injectability of calcium phosphate pastes and cements. Acta Biomaterialia, 2017, 50, 1-19.	4.1	192
4	Development and characterization of self-assembling nanoparticles using a bio-inspired amphipathic peptide for gene delivery. Journal of Controlled Release, 2014, 189, 141-149.	4.8	176
5	Electrospinning of natural polymers for the production of nanofibres for wound healing applications. Materials Science and Engineering C, 2020, 114, 110994.	3.8	169
6	Applications of Carbon Nanotubes in Bone Tissue Regeneration and Engineering: Superiority, Concerns, Current Advancements, and Prospects. Nanomaterials, 2019, 9, 1501.	1.9	119
7	Calcium Phosphate Nanoparticles for Therapeutic Applications in Bone Regeneration. Nanomaterials, 2019, 9, 1570.	1.9	102
8	The relationship between porosity and fatigue characteristics of bone cements. Biomaterials, 2003, 24, 239-245.	5.7	100
9	Influence of mixing techniques on the physical properties of acrylic bone cement. Biomaterials, 2001, 22, 1819-1826.	5.7	94
10	Mechanical properties and cellular response of novel electrospun nanofibers for ligament tissue engineering: Effects of orientation and geometry. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 61, 258-270.	1.5	94
11	Curing characteristics of acrylic bone cement. Journal of Materials Science: Materials in Medicine, 2002, 13, 17-22.	1.7	93
12	Pore-forming bioinks to enable spatio-temporally defined gene delivery in bioprinted tissues. Journal of Controlled Release, 2019, 301, 13-27.	4.8	93
13	Graphene oxide versus graphene for optimisation of PMMA bone cement for orthopaedic applications. Materials Science and Engineering C, 2017, 77, 1003-1011.	3.8	87
14	In vitro study of the efficacy of acrylic bone cement loaded with supplementary amounts of gentamicin: Effect on mechanical properties, antibiotic release, and biofilm formation. Monthly Notices of the Royal Astronomical Society: Letters, 2007, 78, 774-785.	1.2	85
15	DNA vaccination for cervical cancer; a novel technology platform of RALA mediated gene delivery via polymeric microneedles. Nanomedicine: Nanotechnology, Biology, and Medicine, 2017, 13, 921-932.	1.7	85
16	MicroRNA as Therapeutic Targets for Chronic Wound Healing. Molecular Therapy - Nucleic Acids, 2017, 8, 46-55.	2.3	81
17	Shrinkage stresses in bone cement. Biomaterials, 2003, 24, 2933-2940.	5.7	71
18	Incorporation of multiwalled carbon nanotubes to acrylic based bone cements: Effects on mechanical and thermal properties. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 136-145.	1.5	70

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19	Fatigue and biocompatibility properties of a poly(methyl methacrylate) bone cement with multi-walled carbon nanotubes. Acta Biomaterialia, 2012, 8, 1201-1212.	4.1	68
20	DNA vaccination for cervical cancer: Strategic optimisation of RALA mediated gene delivery from a biodegradable microneedle system. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 127, 288-297.	2.0	66
21	Mesenchymal stem cell fate following non-viral gene transfection strongly depends on the choice of delivery vector. Acta Biomaterialia, 2017, 55, 226-238.	4.1	65
22	DNA vaccination via RALA nanoparticles in a microneedle delivery system induces a potent immune response against the endogenous prostate cancer stem cell antigen. Acta Biomaterialia, 2019, 96, 480-490.	4.1	64
23	Biofilm formation by bacteria isolated from retrieved failed prosthetic hip implants in an in vitro model of hip arthroplasty antibiotic prophylaxis. Journal of Orthopaedic Research, 2007, 25, 2-10.	1.2	62
24	Twinning anisotropy of tantalum during nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 627, 249-261.	2.6	62
25	Hydroxyapatite bone substitutes developed via replication of natural marine sponges. Journal of Materials Science: Materials in Medicine, 2010, 21, 2255-2261.	1.7	56
26	Review of Patents on Microneedle Applicators. Recent Patents on Drug Delivery and Formulation, 2011, 5, 11-23.	2.1	52
27	Delivery of RALA/siFKBPL nanoparticles via electrospun bilayer nanofibres: An innovative angiogenic therapy for wound repair. Journal of Controlled Release, 2019, 316, 53-65.	4.8	46
28	Effect of MWCNT addition on the thermal and rheological properties of polymethyl methacrylate bone cement. Carbon, 2011, 49, 2893-2904.	5.4	44
29	Influence of multiwall carbon nanotube functionality and loading on mechanical properties of PMMA/MWCNT bone cements. Journal of Materials Science: Materials in Medicine, 2010, 21, 2287-2292.	1.7	43
30	Influence of alginate backbone on efficacy of thermo-responsive alginate-g-P(NIPAAm) hydrogel as a vehicle for sustained and controlled gene delivery. Materials Science and Engineering C, 2019, 95, 409-421.	3.8	43
31	Rational design and characterisation of a linear cell penetrating peptide for non-viral gene delivery. Journal of Controlled Release, 2021, 330, 1288-1299.	4.8	40
32	Graphene and graphene oxide functionalisation with silanes for advanced dispersion and reinforcement of PMMA-based bone cements. Materials Science and Engineering C, 2019, 104, 109946.	3.8	38
33	Development of a bovine collagenâ€“apatitic calcium phosphate cement for potential fracture treatment through vertebroplasty. Acta Biomaterialia, 2012, 8, 4043-4052.	4.1	36
34	Incorporation of multi-walled carbon nanotubes to PMMA bone cement improves cytocompatibility and osseointegration. Materials Science and Engineering C, 2019, 103, 109823.	3.8	36
35	Calcium Phosphate Nanoparticles-Based Systems for RNAi Delivery: Applications in Bone Tissue Regeneration. Nanomaterials, 2020, 10, 146.	1.9	36
36	Development of three-dimensional printing polymer-ceramic scaffolds with enhanced compressive properties and tuneable resorption. Materials Science and Engineering C, 2018, 93, 975-986.	3.8	34

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37	Biomechanical studies on biomaterial degradation and co-cultured cells: mechanisms, potential applications, challenges and prospects. Journal of Materials Chemistry B, 2019, 7, 7439-7459.	2.9	33
38	Hypoxia mimicking hydrogels to regulate the fate of transplanted stem cells. Acta Biomaterialia, 2019, 88, 314-324.	4.1	31
39	<sup />Hierarchically Structured Electrospun Scaffolds with Chemically Conjugated Growth Factor for Ligament Tissue Engineering. Tissue Engineering - Part A, 2017, 23, 823-836.	1.6	30
40	Advances in biofabrication techniques for collagen-based 3D in vitro culture models for breast cancer research. Materials Science and Engineering C, 2021, 122, 111944.	3.8	29
41	Simple Radical Polymerization of Poly(Alginateâ€Graftâ€Nâ€Isopropylacrylamide) Injectable Thermoresponsive Hydrogel with the Potential for Localized and Sustained Delivery of Stem Cells and Bioactive Molecules. Macromolecular Bioscience, 2017, 17, 1700118.	2.1	28
42	In vitro study investigating the mechanical properties of acrylic bone cement containing calcium carbonate nanoparticles. Journal of Materials Science: Materials in Medicine, 2008, 19, 3327-3333.	1.7	27
43	Biocompatibility of calcium phosphate bone cement with optimized mechanical properties. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2016, 104, 308-315.	1.6	26
44	Optimisation of the mechanical and handling properties of an injectable calcium phosphate cement. Journal of Materials Science: Materials in Medicine, 2010, 21, 2299-2305.	1.7	25
45	Gene therapy with RALA/iNOS composite nanoparticles significantly enhances survival in a model of metastatic prostate cancer. Cancer Nanotechnology, 2018, 9, 5.	1.9	25
46	Development of calcium phosphate cement for the augmentation of traumatically fractured porcine specimens using vertebroplasty. Journal of Biomechanics, 2013, 46, 711-715.	0.9	23
47	Effects of poly (Îµ-caprolactone) coating on the properties of three-dimensional printed porous structures. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 70, 68-83.	1.5	23
48	Peptideâ€modified bone repair materials: Factors influencing osteogenic activity. Journal of Biomedical Materials Research - Part A, 2019, 107, 1491-1512.	2.1	23
49	Feasibility of the use of poultry waste as polymer additives and implications for energy, cost and carbon. Journal of Cleaner Production, 2021, 291, 125948.	4.6	23
50	Incorporation of chitosan in acrylic bone cement: Effect on antibiotic release, bacterial biofilm formation and mechanical properties. Journal of Materials Science: Materials in Medicine, 2008, 19, 1609-1615.	1.7	22
51	In vitro testing of chitosan in gentamicin-loaded bone cement No antimicrobial effect and reduced mechanical performance. Monthly Notices of the Royal Astronomical Society: Letters, 2008, 79, 851-860.	1.2	22
52	Applications of materials for dural reconstruction in pre-clinical and clinical studies: Advantages and drawbacks, efficacy, and selections. Materials Science and Engineering C, 2020, 117, 111326.	3.8	22
53	Synthesis and Evaluation of a Thermoresponsive Degradable Chitosan-Grafted PNIPAAm Hydrogel as a â€œSmartâ€•Gene Delivery System. Materials, 2020, 13, 2530.	1.3	22
54	Effects of Heat Treatment on the Mechanical and Degradation Properties of 3D-Printed Calcium-Sulphate-Based Scaffolds. ISRN Biomaterials, 2013, 2013, 1-10.	0.7	21

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55	Carboxyl functionalised MWCNT/polymethyl methacrylate bone cement for orthopaedic applications. Journal of Biomaterials Applications, 2014, 29, 209-221.	1.2	21
56	Porous Materials with Tunable Structure and Mechanical Properties via Templated Layer-by-Layer Assembly. ACS Applied Materials & Interfaces, 2016, 8, 21968-21973.	4.0	21
57	Biocompatibility of calcium phosphate bone cement with optimised mechanical properties: an in vivo study. Journal of Materials Science: Materials in Medicine, 2016, 27, 191.	1.7	21
58	Extent and mechanism of phase separation during the extrusion of calcium phosphate pastes. Journal of Materials Science: Materials in Medicine, 2016, 27, 29.	1.7	20
59	Systemic RALA/iNOS Nanoparticles: A Potent Gene Therapy for Metastatic Breast Cancer Coupled as a Biomarker of Treatment. Molecular Therapy - Nucleic Acids, 2017, 6, 249-258.	2.3	20
60	Collagen/GAG scaffolds activated by RALA-siMMP-9 complexes with potential for improved diabetic foot ulcer healing. Materials Science and Engineering C, 2020, 114, 111022.	3.8	20
61	RALA complexed Î±-TCP nanoparticle delivery to mesenchymal stem cells induces bone formation in tissue engineered constructs in vitro and in vivo. Journal of Materials Chemistry B, 2017, 5, 1753-1764.	2.9	19
62	Translational Application of 3D Bioprinting for Cartilage Tissue Engineering. Bioengineering, 2021, 8, 144.	1.6	19
63	Advancing bone tissue engineering one layer at a time: a layer-by-layer assembly approach to 3D bone scaffold materials. Biomaterials Science, 2022, 10, 2734-2758.	2.6	19
64	Thermal characteristics of curing acrylic bone cement. IRBM News, 2001, 22, 88-97.	0.1	18
65	Multi-objective optimisation of material properties and strut geometry for poly(L-lactic acid) coronary stents using response surface methodology. PLoS ONE, 2019, 14, e0218768.	1.1	18
66	Advances in Biodegradable 3D Printed Scaffolds with Carbon-Based Nanomaterials for Bone Regeneration. Materials, 2020, 13, 5083.	1.3	18
67	Experimental and Computational Approach Investigating Burst Fracture Augmentation Using PMMA and Calcium Phosphate Cements. Annals of Biomedical Engineering, 2014, 42, 751-762.	1.3	17
68	Composite cryogels for dual drug delivery and enhanced mechanical properties. Polymer Composites, 2018, 39, E210.	2.3	17
69	Improved osteogenic differentiation of human amniotic mesenchymal stem cells on gradient nanostructured Ti surface. Journal of Biomedical Materials Research - Part A, 2020, 108, 1824-1833.	2.1	17
70	Rational design and characterisation of an amphipathic cell penetrating peptide for non-viral gene delivery. International Journal of Pharmaceutics, 2021, 596, 120223.	2.6	17
71	Performance of calcium deficient hydroxyapatiteâ€“polyglycolic acid composites: an inÂvitro study. Journal of Materials Science: Materials in Medicine, 2010, 21, 2263-2270.	1.7	16
72	Binder jetting additive manufacturing of hydroxyapatite powders: Effects of adhesives on geometrical accuracy and green compressive strength. Additive Manufacturing, 2020, 36, 101645.	1.7	16

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73	Identification of a suitable sterilisation method for collagen derived from a marine Demosponge. International Journal of Nano and Biomaterials, 2012, 4, 148.	0.1	14
74	Processing-property relationships of biaxially stretched poly(L-lactic acid) sheet for application in coronary stents. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 86, 113-121.	1.5	14
75	Development of a Spray-Dried Formulation of Peptide-DNA Nanoparticles into a Dry Powder for Pulmonary Delivery Using Factorial Design. Pharmaceutical Research, 2022, 39, 1215-1232.	1.7	14
76	Critical comparison of two methods for the determination of nanomechanical properties of a material: Application to synthetic and natural biomaterials. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2006, 78B, 312-317.	1.6	13
77	Chemical modification of multiwalled carbon nanotube with a bifunctional caged ligand for radioactive labelling. Acta Materialia, 2014, 64, 54-61.	3.8	13
78	Hydroxyapatite sonosensitization of ultrasoundâ€triggered, thermally responsive hydrogels: An onâ€demand delivery system for bone repair applications. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2021, 109, 1622-1633.	1.6	13
79	Incorporation of poultry eggshell and litter ash as high loading polymer fillers in polypropylene. Composites Part C: Open Access, 2020, 3, 100080.	1.5	13
80	Biodegradable and Biocompatible Adhesives for the Effective Stabilisation, Repair and Regeneration of Bone. Bioengineering, 2022, 9, 250.	1.6	13
81	Real time monitoring of the polymerisation of PMMA bone cement using Raman spectroscopy. Journal of Materials Science: Materials in Medicine, 2009, 20, 2427-2431.	1.7	12
82	Nanocomposite-coated porous templates for engineered bone scaffolds: a parametric study of layer-by-layer assembly conditions. Biomedical Materials (Bristol), 2019, 14, 065008.	1.7	12
83	MiRNA 34a: a therapeutic target for castration-resistant prostate cancer. Expert Opinion on Therapeutic Targets, 2016, 20, 1075-1085.	1.5	11
84	Long-term hip loading in unilateral total hip replacement patients is no different between limbs or compared to healthy controls at similar walking speeds. Journal of Biomechanics, 2018, 80, 8-15.	0.9	11
85	Development of TMTP-1 targeted designer biopolymers for gene delivery to prostate cancer. International Journal of Pharmaceutics, 2016, 500, 144-153.	2.6	10
86	Patient positioning and cup orientation during total hip arthroplasty: assessment of current UK practice. HIP International, 2019, 29, 89-95.	0.9	10
87	Modification of polyether ether ketone for the repairing of bone defects. Biomedical Materials (Bristol), 2022, 17, 042001.	1.7	10
88	Surrogate Outcome Measures of In Vitro Osteoclast Resorption of Î² Tricalcium Phosphate. Advanced Healthcare Materials, 2017, 6, 1600947.	3.9	9
89	Effect of combined flexion and external rotation on measurements of the proximal femur from anteroposterior pelvic radiographs. Orthopaedics and Traumatology: Surgery and Research, 2018, 104, 449-454.	0.9	8
90	Characterisation and constitutive modelling of biaxially stretched poly(L-lactic acid) sheet for application in coronary stents. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 97, 346-354.	1.5	8

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91	Evaluation of an accelerated aging medium for acrylic bone cement based on analysis of nanoindentation measurements on laboratory-prepared and retrieved specimens. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2007, 81B, 544-550.	1.6	7
92	Investigating Approaches for Three-Dimensional Printing of Hydroxyapatite Scaffolds for Bone Regeneration. Key Engineering Materials, 0, 631, 306-311.	0.4	7
93	Development and optimisation of extruded bio-based polymers from poultry feathers. European Polymer Journal, 2021, 158, 110678.	2.6	7
94	The influence of coating technology on the mechanical performance of montmorillonite nanoclay reinforced acrylic bone cement. International Journal of Nano and Biomaterials, 2008, 1, 237.	0.1	6
95	Development of operator independent bone cement vacuum mixing system for joint replacement surgery. Plastics, Rubber and Composites, 2006, 35, 317-323.	0.9	5
96	Incorporation of montmorillonite nanoclay to acrylic bone cement: effect on mechanical properties and morphology. International Journal of Nano and Biomaterials, 2007, 1, 138.	0.1	5
97	Scaffolds Reinforced by Fibers or Tubes for Tissue Repair. BioMed Research International, 2014, 2014, 1-2.	0.9	5
98	Emerging areas of bone repair materials. , 2019, , 411-446.		5
99	Influence of preoperative femoral orientation on radiographic measures of femoral head height in total hip replacement. Clinical Biomechanics, 2021, 81, 105247.	0.5	5
100	Exploiting the anticancer effects of a nitrogen bisphosphonate nanomedicine for glioblastoma multiforme. Journal of Nanobiotechnology, 2021, 19, 127.	4.2	5
101	Critical evaluation of pulse-echo ultrasonic test method for the determination of setting and mechanical properties of acrylic bone cement: Influence of mixing technique. Ultrasonics, 2015, 56, 279-286.	2.1	4
102	Advanced G-MPS-PMMA Bone Cements: Influence of Graphene Silanisation on Fatigue Performance, Thermal Properties and Biocompatibility. Nanomaterials, 2021, 11, 139.	1.9	4
103	Ethical aspects of the biologicalisation of manufacturing. CIRP Journal of Manufacturing Science and Technology, 2021, 34, 178-185.	2.3	4
104	Investigations on drop penetration and wetting characteristics of powder-liquid systems in relation to the mixing of acrylic bone cement. International Journal of Nano and Biomaterials, 2010, 3, 20.	0.1	3
105	Polymeric Scaffolds for Tissue Engineering. International Journal of Polymer Science, 2014, 2014, 1-2.	1.2	3
106	Optimisation of a two-liquid component pre-filled acrylic bone cement system: a design of experiments approach to optimise cement final properties. Journal of Materials Science: Materials in Medicine, 2014, 25, 2287-2296.	1.7	3
107	Operative and radiographic acetabular component orientation in total hip replacement: Influence of pelvic orientation and surgical positioning technique. Medical Engineering and Physics, 2019, 64, 7-14.	0.8	3
108	Improving the Intercellular Uptake and Osteogenic Potency of Calcium Phosphate via Nanocomplexation with the RALA Peptide. Nanomaterials, 2020, 10, 2442.	1.9	3

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109	Hydrothermal synthesis of coccolith rich chalk to hydroxyapatite. International Journal of Nano and Biomaterials, 2012, 4, 81.	0.1	2
110	Poultry feather disulphide bond breakdown to enable bio-based polymer production. Polymers From Renewable Resources, 2021, 12, 92-110.	0.8	2
111	Bone Cement Mixing: Theatre Staff's Views and Opinions. Journal of Perioperative Practice, 2000, 10, 619-623.	0.1	1
112	Biomechanics of Vertebroplasty: Effect of Cement Viscosity on Mechanical Behaviour. Key Engineering Materials, 0, 587, 416-421.	0.4	1
113	Production of Feather-Based Biopolymers as a Direct Alternative to Synthetic Plastics. ACS Sustainable Chemistry and Engineering, 2022, 10, 486-494.	3.2	1
114	Effect of vacuum mixing and manual pressurisation on residual strains in polymethyl methacrylate bone cement mantles. International Journal of Nano and Biomaterials, 2010, 3, 49.	0.1	0
115	Carbon Nanotubes in Acrylic Bone Cement. Springer Series in Biomaterials Science and Engineering, 2013, , 173-199.	0.7	0
116	Nanoparticles beyond the blood-brain barrier for glioblastoma. , 2021, , 707-747.		0
117	The Mechanical Properties of the Scaffolds Reinforced by Fibres or Tubes for Tissue Repair. , 2017, , 79-111.		0
118	Influence de la flexion et de la rotation latÃ©rale combinÃ©es de la hanche sur les mensurations morphomÃ©triques du fÃ©mur proximal sur des radiographies de bassin de face. Revue De Chirurgie Orthopedique Et Traumatologique, 2018, 104, 312.	0.0	0