

# Ernesto Di Maio

## List of Publications by Year in descending order

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121  
papers

3,620  
citations

147801

31  
h-index

149698

56  
g-index

127  
all docs

127  
docs citations

127  
times ranked

3589  
citing authors

#	ARTICLE	IF	CITATIONS
1	Poly(lactic acid)/organoclay nanocomposites: Thermal, rheological properties and foam processing. Journal of Polymer Science, Part B: Polymer Physics, 2005, 43, 689-698.	2.1	224
2	Reactively Modified Poly(lactic acid): Properties and Foam Processing. Macromolecular Materials and Engineering, 2005, 290, 1083-1090.	3.6	192
3	Nanocomposites by melt intercalation based on polycaprolactone and organoclay. Journal of Polymer Science, Part B: Polymer Physics, 2003, 41, 670-678.	2.1	185
4	Foaming of polymers with supercritical fluids and perspectives on the current knowledge gaps and challenges. Journal of Supercritical Fluids, 2018, 134, 157-166.	3.2	168
5	Processing and shelf life issues of selected food packaging materials and structures from renewable resources. Trends in Food Science and Technology, 2011, 22, 72-80.	15.1	167
6	Isothermal crystallization in PCL/clay nanocomposites investigated with thermal and rheometric methods. Polymer, 2004, 45, 8893-8900.	3.8	139
7	Design of porous polymeric scaffolds by gas foaming of heterogeneous blends. Journal of Materials Science: Materials in Medicine, 2009, 20, 2043-2051.	3.6	112
8	Structure optimization of polycaprolactone foams by using mixtures of CO <sub>2</sub> and N <sub>2</sub> as blowing agents. Polymer Engineering and Science, 2005, 45, 432-441.	3.1	110
9	Solid-state supercritical CO <sub>2</sub> foaming of PCL and PCL-HA nano-composite: Effect of composition, thermal history and foaming process on foam pore structure. Journal of Supercritical Fluids, 2011, 58, 158-167.	3.2	88
10	Tailoring the pore structure of PCL scaffolds for tissue engineering prepared via gas foaming of multi-phase blends. Journal of Porous Materials, 2012, 19, 181-188.	2.6	86
11	Novel 3D porous multi-phase composite scaffolds based on PCL, thermoplastic zein and ha prepared via supercritical CO <sub>2</sub> foaming for bone regeneration. Composites Science and Technology, 2010, 70, 1838-1846.	7.8	75
12	Polyurethane-silica hybrid foam by sol-gel approach: Chemical and functional properties. Polymer, 2015, 56, 20-28.	3.8	71
13	Processing/structure/property relationship of multi-scaled PCL and PCL-HA composite scaffolds prepared via gas foaming and NaCl reverse templating. Biotechnology and Bioengineering, 2011, 108, 963-976.	3.3	70
14	Design of Bimodal PCL and PCL-HA Nanocomposite Scaffolds by Two Step Depressurization During Solid-state Supercritical CO <sub>2</sub> Foaming. Macromolecular Rapid Communications, 2011, 32, 1150-1156.	3.9	68
15	Effect of molecular structure on film blowing ability of thermoplastic zein. Journal of Applied Polymer Science, 2010, 115, 277-287.	2.6	63
16	Conventional and nanometric nucleating agents in poly(ε-caprolactone) foaming: Crystals vs. bubbles nucleation. Polymer Engineering and Science, 2008, 48, 336-344.	3.1	59
17	Effect of Supramolecular Structures on Thermoplastic Zein-Lignin Bionanocomposites. Journal of Agricultural and Food Chemistry, 2011, 59, 10062-10070.	5.2	56
18	Hydration-induced reinforcement of rigid polyurethane-cement foams: The effect of the co-continuous morphology on the thermal-oxidative stability. Polymer Degradation and Stability, 2013, 98, 64-72.	5.8	55

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19	Characterization of Microcellular Biodegradable Polymeric Foams Produced from Supercritical Carbon Dioxide Solutions. <i>Industrial &amp; Engineering Chemistry Research</i> , 2005, 44, 1795-1803.	3.7	52
20	Poly(ethylene terephthalate) foams: Correlation between the polymer properties and the foaming process. <i>Journal of Applied Polymer Science</i> , 2010, 116, 27-35.	2.6	52
21	Experimental characterization of phenolic-impregnated honeycomb sandwich structures for transportation vehicles. <i>Composite Structures</i> , 2011, 93, 2910-2924.	5.8	50
22	Engineered $\frac{1}{4}$ -bimodal poly( $\mu$ -caprolactone) porous scaffold for enhanced hMSC colonization and proliferation. <i>Acta Biomaterialia</i> , 2009, 5, 1082-1093.	8.3	49
23	Dielectric Properties of Sustainable Nanocomposites Based on Zein Protein and Lignin for Biodegradable Insulators. <i>Advanced Functional Materials</i> , 2017, 27, 1605142.	14.9	41
24	Carbon nanotubes in microwave foaming of thermoplastics. <i>Carbon</i> , 2017, 125, 32-38.	10.3	41
25	Foaming of Synthetic and Natural Biodegradable Polymers. <i>Journal of Cellular Plastics</i> , 2007, 43, 123-133.	2.4	40
26	Engineering bioactive synthetic polymers for biomedical applications: a review with emphasis on tissue engineering and controlled release. <i>Materials Advances</i> , 2021, 2, 4447-4478.	5.4	40
27	Architecture and properties of bi-modal porous scaffolds for bone regeneration prepared via supercritical CO <sub>2</sub> foaming and porogen leaching combined process. <i>Journal of Supercritical Fluids</i> , 2012, 67, 114-122.	3.2	39
28	Solubility, mutual diffusivity, specific volume and interfacial tension of molten PCL/CO <sub>2</sub> solutions by a fully experimental procedure: effect of pressure and temperature. <i>Journal of Supercritical Fluids</i> , 2012, 67, 131-138.	3.2	38
29	Sorption Thermodynamics and Mutual Diffusivity of Carbon Dioxide in Molten Polycaprolactone. <i>Industrial &amp; Engineering Chemistry Research</i> , 2003, 42, 4398-4405.	3.7	37
30	Thermoplastic Foams from Zein and Gelatin. <i>International Polymer Processing</i> , 2007, 22, 480-488.	0.5	37
31	Design and preparation of $\frac{1}{4}$ -bimodal porous scaffold for tissue engineering. <i>Journal of Applied Polymer Science</i> , 2007, 106, 3335-3342.	2.6	33
32	Structure development during crystallization of polycaprolactone. <i>Rheologica Acta</i> , 2006, 45, 387-392.	2.4	31
33	Polystyrene Foaming at High Pressure Drop Rates. <i>Industrial &amp; Engineering Chemistry Research</i> , 2016, 55, 5696-5701.	3.7	31
34	Design of novel three-phase PCL/TZâ€“HA biomaterials for use in bone regeneration applications. <i>Journal of Materials Science: Materials in Medicine</i> , 2010, 21, 2569-2581.	3.6	30
35	Microstructure, degradation and in vitro MG63 cells interactions of a new poly( $\mu$ -caprolactone), zein, and hydroxyapatite composite for bone tissue engineering. <i>Journal of Bioactive and Compatible Polymers</i> , 2012, 27, 210-226.	2.1	29
36	Hydration-induced reinforcement of rigid polyurethaneâ€“cement foams: mechanical and functional properties. <i>Journal of Materials Science</i> , 2012, 47, 6948-6957.	3.7	29

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37	Assessing the suitability of polylactic acid flexible films for high pressure pasteurization and sterilization of packaged foodstuff. <i>Journal of Food Engineering</i> , 2012, 111, 34-45.	5.2	29
38	Hydration-induced reinforcement of polyurethane-cement foams: solvent resistance and mechanical properties. <i>Journal of Materials Science</i> , 2010, 45, 3388-3391.	3.7	28
39	Simultaneous experimental evaluation of solubility, diffusivity, interfacial tension and specific volume of polymer/gas solutions. <i>Polymer Testing</i> , 2011, 30, 303-309.	4.8	28
40	Validated modeling of bubble growth, impingement and retraction to predict cell-opening in thermoplastic foaming. <i>Chemical Engineering Journal</i> , 2016, 287, 492-502.	12.7	28
41	Isothermal crystallization kinetics of chain-extended PET. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2005, 43, 1966-1972.	2.1	27
42	Engineering of Foamed Structures for Biomedical Application. <i>Journal of Cellular Plastics</i> , 2009, 45, 103-117.	2.4	26
43	Investigation of Thermoplasticity of Zein and Kafirin Proteins: Mixing Process and Mechanical Properties. <i>Journal of Polymers and the Environment</i> , 2010, 18, 626-633.	5.0	26
44	Quantitative imaging of the complexity in liquid bubbles™ evolution reveals the dynamics of film retraction. <i>Light: Science and Applications</i> , 2019, 8, 20.	16.6	26
45	The role of protein-plasticizer-clay interactions on processing and properties of thermoplastic zein bionanocomposites. <i>Journal of Applied Polymer Science</i> , 2012, 125, E314.	2.6	24
46	Elasticity in Bubble Rupture. <i>Langmuir</i> , 2018, 34, 5646-5654.	3.5	24
47	A novel lab-scale batch foaming equipment: The mini-batch. <i>Journal of Cellular Plastics</i> , 2016, 52, 533-543.	2.4	23
48	Polyurethane-cement-based foams: Characterization and potential uses. <i>Journal of Applied Polymer Science</i> , 2008, 107, 1-8.	2.6	22
49	Hollow micro- and nano-particles by gas foaming. <i>Nano Research</i> , 2014, 7, 1018-1026.	10.4	22
50	Process-structure Relationships in PCL Foaming. <i>Journal of Cellular Plastics</i> , 2008, 44, 37-52.	2.4	21
51	Investigation of CO2 sorption in molten polymers at high pressures using Raman line imaging. <i>Polymer</i> , 2013, 54, 812-818.	3.8	20
52	Multi-graded foams upon time-dependent exposition to blowing agent. <i>Chemical Engineering Journal</i> , 2019, 362, 812-817.	12.7	20
53	Strategies to Produce Thermoplastic Starch-Zein Blends: Effect on Compatibilization. <i>Journal of Polymers and the Environment</i> , 2014, 22, 508-524.	5.0	18
54	Early bubble coalescence in thermoplastic foaming. <i>Materials Letters</i> , 2018, 228, 459-462.	2.6	18

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55	Tuning the three-dimensional architecture of supercritical CO <sub>2</sub> foamed PCL scaffolds by a novel mould patterning approach. <i>Materials Science and Engineering C</i> , 2020, 109, 110518.	7.3	18
56	Towards a systematic determination of multicomponent gas separation with membranes: the case of CO <sub>2</sub> /CH <sub>4</sub> in cellulose acetates. <i>Journal of Membrane Science</i> , 2021, 628, 119226.	8.2	18
57	Thermodynamics of water sorption in poly(É-caprolactone): A comparative analysis of lattice fluid models including hydrogen bond contributions. <i>Fluid Phase Equilibria</i> , 2012, 313, 127-139.	2.5	17
58	Modelling Sorption Thermodynamics and Mass Transport of n-Hexane in a Propylene-Ethylene Elastomer. <i>Polymers</i> , 2021, 13, 1157.	4.5	17
59	Competing bubble formation mechanisms in rigid polyurethane foaming. <i>Polymer</i> , 2021, 228, 123877.	3.8	17
60	A predictive approach based on the Simha-Somcynsky free-volume theory for the effect of dissolved gas on viscosity and glass transition temperature of polymeric mixtures. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2006, 44, 1863-1873.	2.1	16
61	Polyether polyol/CO <sub>2</sub> solutions: Solubility, mutual diffusivity, specific volume and interfacial tension by coupled gravimetry-Axisymmetric Drop Shape Analysis. <i>Fluid Phase Equilibria</i> , 2016, 425, 342-350.	2.5	16
62	Preparation and Characterization of Polyurethane Porous Membranes by Particulate-leaching Method. <i>Frontiers in Forests and Global Change</i> , 2001, 20, 321-338.	1.1	15
63	Insight into bubble nucleation at high-pressure drop rate. <i>Journal of Cellular Plastics</i> , 2017, 53, 551-560.	2.4	15
64	Thermosetting polyurethane foams by physical blowing agents: Chasing the synthesis reaction with the pressure. <i>Journal of Supercritical Fluids</i> , 2019, 154, 104630.	3.2	15
65	The effect of organofluorine additives on the morphology, thermal conductivity and mechanical properties of rigid polyurethane and polyisocyanurate foams. <i>Journal of Cellular Plastics</i> , 2022, 58, 121-137.	2.4	15
66	Flowering in bursting bubbles with viscoelastic interfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	15
67	A microcapillary rheometer for microliter sized polymer characterization. <i>Polymer Testing</i> , 2021, 102, 107332.	4.8	15
68	Effect of two kinds of lignins, alkaline lignin and sodium lignosulfonate, on the foamability of thermoplastic zein-based bionanocomposites. <i>Journal of Cellular Plastics</i> , 2012, 48, 516-525.	2.4	14
69	Thermoplastic Processing of Blue Maize and White Sorghum Flours to Produce Bioplastics. <i>Journal of Polymers and the Environment</i> , 2015, 23, 72-82.	5.0	14
70	Wettability of graphene by molten polymers. <i>Polymer</i> , 2019, 180, 121708.	3.8	14
71	A pressure vessel for studying gas foaming of thermosetting polymers: sorption, synthesis and processing. <i>Polymer Testing</i> , 2017, 62, 137-142.	4.8	13
72	Digital holography as metrology tool at micro-nanoscale for soft matter. <i>Light Advanced Manufacturing</i> , 2022, 3, 151.	5.1	13

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73	Mechanical Characterization of a Polyurethane-Cement Hybrid Foam in Compression, Tension, and Shear. <i>Journal of Materials in Civil Engineering</i> , 2017, 29, .	2.9	12
74	Mass transport and physical properties of polymeric methylene diphenyl diisocyanate/CO <sub>2</sub> solutions. <i>Fluid Phase Equilibria</i> , 2018, 456, 116-123.	2.5	12
75	Volumetric Properties and Sorption Behavior of Perfluoropolymers with Dioxolane Pendant Rings. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 5276-5286.	3.7	12
76	Heterogeneous bubble nucleation in PCL/clay nanocomposite foams. <i>Plastics, Rubber and Composites</i> , 2003, 32, 313-317.	2.0	11
77	Polyurethane synthesis under high-pressure CO <sub>2</sub> , a FT-NIR study. <i>European Polymer Journal</i> , 2019, 115, 364-374.	5.4	11
78	Classification and Production of Polymeric Foams among the Systems for Wound Treatment. <i>Polymers</i> , 2021, 13, 1608.	4.5	11
79	Effect of Molecular Modification on PCL Foam Formation and Morphology of PCL. <i>Macromolecular Symposia</i> , 2005, 228, 219-228.	0.7	10
80	Scaffolds with tubular/isotropic Bi-modal pore structures by gas foaming and fiber templating. <i>Materials Letters</i> , 2013, 93, 157-160.	2.6	10
81	On the unexpected non-monotonic profile of specific volume observed in PCL/CO <sub>2</sub> solutions. <i>Polymer</i> , 2015, 56, 252-255.	3.8	10
82	Modeling and simulation of viscoelastic film retraction. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2017, 249, 26-35.	2.4	10
83	Thermoplastic polyurethaneâ€“graphene nanoplatelets microcellular foams for electromagnetic interference shielding. <i>Graphene Technology</i> , 2020, 5, 33-39.	1.9	8
84	Thermal management of a multiple mini-channel heat sink by the integration of a thermal responsive shape memory material. <i>Applied Thermal Engineering</i> , 2014, 62, 113-122.	6.0	7
85	Raman Line Imaging of Poly( $\epsilon$ -caprolactone)/Carbon Dioxide Solutions at High Pressures: A Combined Experimental and Computational Study for Interpreting Intermolecular Interactions and Free-Volume Effects. <i>Journal of Physical Chemistry B</i> , 2016, 120, 9115-9131.	2.6	7
86	Enhancement of crystallization kinetics of poly(l-lactic acid) by grafting with optically pure branches. <i>Polymer</i> , 2021, 227, 123852.	3.8	7
87	Supercritical CO <sub>2</sub> Foaming of Thermoplastic Materials Derived from Maize: Proof-of-Concept Use in Mammalian Cell Culture Applications. <i>PLoS ONE</i> , 2015, 10, e0122489.	2.5	6
88	Microcellular foaming of arabinoxylan and PEGylated arabinoxylan with supercritical CO <sub>2</sub> . <i>Carbohydrate Polymers</i> , 2018, 181, 442-449.	10.2	6
89	Axisymmetric bare freestanding films of highly viscous liquids: Preparation and real-time investigation of capillary leveling. <i>Journal of Colloid and Interface Science</i> , 2021, 596, 493-499.	9.4	6
90	Rheology-driven design of pizza gas foaming. <i>Physics of Fluids</i> , 2022, 34, .	4.0	5

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91	Role of Air Bubble Inclusion on Polyurethane Reaction Kinetics. Materials, 2022, 15, 3135.	2.9	5
92	Selective Gold and Palladium Adsorption from Standard Aqueous Solutions. Processes, 2021, 9, 1282.	2.8	4
93	Heterogeneous Bubble Nucleation by Homogeneous Crystal Nuclei in Poly(L-Lactic Acid) Foaming. Macromolecular Chemistry and Physics, 2022, 223, .	2.2	4
94	Sintering graded foamed beads: Compressive properties. Journal of Applied Polymer Science, 2022, 139, .	2.6	4
95	TPU-based porous heterostructures by combined techniques. International Polymer Processing, 2022, 37, 415-426.	0.5	4
96	Cellulose based hybrid hydroxylated adducts for polyurethane foams. AIP Conference Proceedings, 2012, , .	0.4	3
97	Anomalous swelling of molten PCL/scCO <sub>2</sub> solutions. , 2014, , .		3
98	Foams and their applications. Supercritical Fluid Science and Technology, 2021, 9, 1-20.	0.5	3
99	Osteogenic differentiation of CD271(+) cells from rabbit bone marrow cultured on three phase PCL/TZ-HA bioactive scaffolds: comparative study with mesenchymal stem cells (MSCs). International Journal of Clinical and Experimental Medicine, 2015, 8, 13154-62.	1.3	3
100	CONTROLLED PREPARATION OF POROUS SCAFFOLDS BY GAS FOAMING OF HETEROGENEOUS BLENDS. AIP Conference Proceedings, 2008, , .	0.4	2
101	Interferometric measurement of film thickness during bubble blowing. , 2017, , .		2
102	Gas foaming with physical blowing agents. Supercritical Fluid Science and Technology, 2021, 9, 33-54.	0.5	2
103	Morphology modulation of gas-foamed, micrometric, hollow polystyrene particles. Journal of Applied Polymer Science, 2016, 133, .	2.6	1
104	Easy-to-fill asymmetric polymeric micro-reservoirs. RSC Advances, 2016, 6, 64140-64146.	3.6	1
105	Fast and Accurate Thickness Mapping of Liquid Bubbles and Thin Protein Films. , 2018, , .		1
106	Thin-film drainage study based on holographic 3D particle tracking. , 2018, , .		1
107	Recent Advancements and Perspective About Digital Holography: A Super-Tool in Biomedical and Bioengineering Fields. Conference Proceedings of the Society for Experimental Mechanics, 2019, , 235-241.	0.5	1
108	Bubble growth. Supercritical Fluid Science and Technology, 2021, , 353-374.	0.5	1

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109	Matricial foaming. Polymer Testing, 2022, 111, 107590.	4.8	1
110	TIMESCALES IN BUBBLE NUCLEATION EVENTS FOR THE FORMATION OF MICROCELLULAR BIODEGRADABLE FOAMS. AIP Conference Proceedings, 2008, , .	0.4	0
111	PS foams at high pressure drop rates. , 2014, , .		0
112	Bioâ€nanocomposites: Dielectric Properties of Sustainable Nanocomposites Based on Zein Protein and Lignin for Biodegradable Insulators (Adv. Funct. Mater. 8/2017). Advanced Functional Materials, 2017, 27, .	14.9	0
113	Fast and Accurate Thickness Mapping of Thin Liquid Films. EPJ Web of Conferences, 2019, 215, 12002.	0.3	0
114	A remote foaming experiment. Education for Chemical Engineers, 2021, 36, 171-175.	4.8	0
115	The Foaming Process of Biodegradable Polyesters. , 2003, , 273-287.		0
116	Holographic phase imaging for full-field thickness mapping of evolving thin liquid films. , 2018, , .		0
117	Holographic Imaging for 3D Visualization and Metrology of Liquid Bubbles. , 2019, , .		0
118	Sorption thermodynamics of low molecular weight compounds in polymers. Supercritical Fluid Science and Technology, 2021, 9, 69-177.	0.5	0
119	Rheological properties. Supercritical Fluid Science and Technology, 2021, 9, 263-283.	0.5	0
120	Batch processing. Supercritical Fluid Science and Technology, 2021, 9, 389-410.	0.5	0
121	Bubble-Patterned Films by Inkjet Printing and Gas Foaming. Coatings, 2022, 12, 806.	2.6	0