

# Diego Manfredi

## List of Publications by Year in descending order

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110  
papers

5,484  
citations

76294

40  
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88593

70  
g-index

112  
all docs

112  
docs citations

112  
times ranked

4925  
citing authors

#	ARTICLE	IF	CITATIONS
1	Overview on Additive Manufacturing Technologies. Proceedings of the IEEE, 2017, 105, 593-612.	16.4	402
2	Influence of process parameters on surface roughness of aluminum parts produced by DMLS. International Journal of Advanced Manufacturing Technology, 2013, 67, 2743-2751.	1.5	372
3	On the Selective Laser Melting (SLM) of the AlSi10Mg Alloy: Process, Microstructure, and Mechanical Properties. Materials, 2017, 10, 76.	1.3	323
4	From Powders to Dense Metal Parts: Characterization of a Commercial AlSiMg Alloy Processed through Direct Metal Laser Sintering. Materials, 2013, 6, 856-869.	1.3	257
5	3D Printing of Conductive Complex Structures with In Situ Generation of Silver Nanoparticles. Advanced Materials, 2016, 28, 3712-3717.	11.1	200
6	Influence of heat treatments on microstructure evolution and mechanical properties of Inconel 625 processed by laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 729, 64-75.	2.6	171
7	New Aluminum Alloys Specifically Designed for Laser Powder Bed Fusion: A Review. Materials, 2019, 12, 1007.	1.3	162
8	Rough surfaces with enhanced heat transfer for electronics cooling by direct metal laser sintering. International Journal of Heat and Mass Transfer, 2014, 75, 58-74.	2.5	159
9	Additive manufacturing of titanium alloys in the biomedical field: processes, properties and applications. Journal of Applied Biomaterials and Functional Materials, 2018, 16, 57-67.	0.7	136
10	Characterization and Comparison of Inconel 625 Processed by Selective Laser Melting and Laser Metal Deposition. Advanced Engineering Materials, 2017, 19, 1600635.	1.6	128
11	A comparison of Selective Laser Melting with bulk rapid solidification of AlSi10Mg alloy. Journal of Alloys and Compounds, 2018, 742, 271-279.	2.8	123
12	Selective Laser Melting Manufacturing of Microwave Waveguide Devices. Proceedings of the IEEE, 2017, 105, 620-631.	16.4	108
13	Effect of heat treatment on corrosion resistance of DMLS AlSi10Mg alloy. Electrochimica Acta, 2016, 206, 346-355.	2.6	105
14	Evaluation of corrosion resistance of Al <sup>10</sup> Si <sup>10</sup> Mg alloy obtained by means of Direct Metal Laser Sintering. Journal of Materials Processing Technology, 2016, 231, 326-335.	3.1	102
15	On the effect of process parameters on properties of AlSi10Mg parts produced by DMLS. Rapid Prototyping Journal, 2014, 20, 449-458.	1.6	101
16	The role of texturing and microstructure evolution on the tensile behavior of heat-treated Inconel 625 produced via laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 769, 138500.	2.6	101
17	3D Printed PEG-Based Hybrid Nanocomposites Obtained by Sol-Gel Technique. ACS Applied Materials & Interfaces, 2016, 8, 5627-5633.	4.0	81
18	High efficiency dye-sensitized solar cells exploiting sponge-like ZnO nanostructures. Physical Chemistry Chemical Physics, 2012, 14, 16203.	1.3	75

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19	About the Use of Recycled or Biodegradable Filaments for Sustainability of 3D Printing. Smart Innovation, Systems and Technologies, 2017, , 776-785.	0.5	73
20	A study of the microstructure and the mechanical properties of Si Ni alloy produced via selective laser melting. Journal of Alloys and Compounds, 2017, 695, 1470-1478.	2.8	72
21	Charge transport improvement employing TiO <sub>2</sub> nanotube arrays as front-side illuminated dye-sensitized solar cell photoanodes. Physical Chemistry Chemical Physics, 2013, 15, 2596-2602.	1.3	71
22	Additive Manufacturing of a Microbial Fuel Cell—A detailed study. Scientific Reports, 2015, 5, 17373.	1.6	71
23	Single scan track analyses on aluminium based powders. Journal of Materials Processing Technology, 2018, 255, 17-25.	3.1	70
24	Investigation of accuracy and dimensional limits of part produced in aluminum alloy by selective laser melting. International Journal of Advanced Manufacturing Technology, 2017, 88, 451-458.	1.5	69
25	Fast and low-cost synthesis of 1D ZnO@TiO <sub>2</sub> core-shell nanoarrays: Characterization and enhanced photo-electrochemical performance for water splitting. Journal of Alloys and Compounds, 2014, 615, S530-S537.	2.8	67
26	Effect of Process and Post-Process Conditions on the Mechanical Properties of an A357 Alloy Produced via Laser Powder Bed Fusion. Metals, 2017, 7, 68.	1.0	67
27	Additive Manufacturing of Al Alloys and Aluminium Matrix Composites (AMCs). , 0, , .		66
28	Corrosion Behavior of Heat-Treated AlSi10Mg Manufactured by Laser Powder Bed Fusion. Materials, 2018, 11, 1051.	1.3	54
29	Manufacturing of thin wall structures in AlSi10Mg alloy by laser powder bed fusion through process parameters. Journal of Materials Processing Technology, 2018, 255, 773-783.	3.1	52
30	Corrosion resistance of direct metal laser sintering AlSiMg alloy. Surface and Interface Analysis, 2016, 48, 818-826.	0.8	50
31	Study of Internal Channel Surface Roughnesses Manufactured by Selective Laser Melting in Aluminum and Titanium Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 3837-3844.	1.1	48
32	Direct Fabrication of Joints based on Direct Metal Laser Sintering in Aluminum and Titanium Alloys. Procedia CIRP, 2014, 21, 129-132.	1.0	46
33	Integration of an $\pi$ -Plane Bend, a Twist, and a Filter in Ku/K-Band Through Additive Manufacturing. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 2210-2219.	2.9	46
34	An easy approach for the fabrication of TiO <sub>2</sub> nanotube-based transparent photoanodes for Dye-sensitized Solar Cells. Solar Energy, 2013, 95, 90-98.	2.9	45
35	Vertically aligned TiO <sub>2</sub> nanotube array for high rate Li-based micro-battery anodes with improved durability. Electrochimica Acta, 2013, 102, 233-239.	2.6	45
36	Passive heat transfer enhancement by 3D printed Pitot tube based heat sink. International Communications in Heat and Mass Transfer, 2016, 74, 36-39.	2.9	45

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37	Tribological Behavior of Aluminum Alloy AlSi10Mg-TiB <sub>2</sub> Composites Produced by Direct Metal Laser Sintering (DMLS). <i>Journal of Materials Engineering and Performance</i> , 2016, 25, 3152-3160.	1.2	44
38	Additive manufacturing of Ku/Ka-band waveguide filters: a comparative analysis among selective laser melting and stereolithography. <i>IET Microwaves, Antennas and Propagation</i> , 2017, 11, 1936-1942.	0.7	42
39	Additive Manufacturing of Ka-Band Dual-Polarization Waveguide Components. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2018, 66, 3589-3596.	2.9	42
40	Enhanced Topology of $\text{TE}_{10}$ Plane Resonators for High-Power Satellite Applications. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015, 63, 3361-3373.	2.9	41
41	Solution Treatment Study of Inconel 718 Produced by SLM Additive Technique in View of the Oxidation Resistance. <i>Advanced Engineering Materials</i> , 2018, 20, 1800351.	1.6	41
42	Corrosion behavior of AlSi10Mg alloy produced by laser powder bed fusion under chloride exposure. <i>Corrosion Science</i> , 2019, 152, 101-108.	3.0	41
43	Synthesis and Characterization of Gold Nanostars as Filler of Tunneling Conductive Polymer Composites. <i>European Journal of Inorganic Chemistry</i> , 2012, 2012, 2669-2673.	1.0	40
44	Statistical approach for electrochemical evaluation of the effect of heat treatments on the corrosion resistance of AlSi10Mg alloy by laser powder bed fusion. <i>Electrochimica Acta</i> , 2019, 305, 459-466.	2.6	39
45	Thick mesoporous TiO <sub>2</sub> films through a sol-gel method involving a non-ionic surfactant: Characterization and enhanced performance for water photo-electrolysis. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 21512-21522.	3.8	37
46	A time-saving and cost-effective method to process alloys by Laser Powder Bed Fusion. <i>Materials and Design</i> , 2019, 181, 107949.	3.3	37
47	Effect of the fabrication method on the functional properties of BaTiO <sub>3</sub> : PVDF nanocomposites. <i>Journal of Materials Science</i> , 2013, 48, 6943-6951.	1.7	34
48	Microstructural investigation of as-fabricated and heat-treated Inconel 625 and Inconel 718 fabricated by direct metal laser sintering: contribution of Politecnico di Torino and Istituto Italiano di Tecnologia (IIT) di Torino. <i>Metal Powder Report</i> , 2016, 71, 273-278.	0.3	34
49	Laser Powder Bed Fusion of a High Strength Al-Si-Zn-Mg-Cu Alloy. <i>Metals</i> , 2018, 8, 300.	1.0	33
50	3-D Printing of High-Performance Feed Horns From Ku- to V-Bands. <i>IEEE Antennas and Wireless Propagation Letters</i> , 2018, 17, 2036-2040.	2.4	32
51	Microstructural and Mechanical Characterization of Aluminum Matrix Composites Produced by Laser Powder Bed Fusion. <i>Advanced Engineering Materials</i> , 2017, 19, 1700180.	1.6	31
52	Laser Powder Bed Fusion in-situ alloying of Ti-5%Cu alloy: Process-structure relationships. <i>Journal of Alloys and Compounds</i> , 2021, 857, 157558.	2.8	31
53	Residual stresses in additively manufactured AlSi10Mg: Raman spectroscopy and X-ray diffraction analysis. <i>Materials and Design</i> , 2021, 202, 109550.	3.3	31
54	Additive manufacturing for agile legged robots with hydraulic actuation. , 2015, , .		30

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55	Microstructure and mechanical properties of co-continuous metal/ceramic composites obtained from Reactive Metal Penetration of commercial aluminium alloys into cordierite. <i>Composites Part A: Applied Science and Manufacturing</i> , 2010, 41, 639-645.	3.8	29
56	Enhancement of electron lifetime in dye-sensitized solar cells using anodically grown TiO <sub>2</sub> nanotube/nanoparticle composite photoanodes. <i>Microelectronic Engineering</i> , 2013, 111, 137-142.	1.1	29
57	Effect of heat treatment on microstructure and oxidation properties of Inconel 625 processed by LPBF. <i>Journal of Alloys and Compounds</i> , 2020, 846, 156418.	2.8	29
58	The Influence of the Process Parameters on the Densification and Microstructure Development of Laser Powder Bed Fused Inconel 939. <i>Metals</i> , 2020, 10, 882.	1.0	28
59	Case Study of the Tensile Fracture Investigation of Additive Manufactured Austenitic Stainless Steels Treated at Cryogenic Conditions. <i>Materials</i> , 2020, 13, 3328.	1.3	28
60	A Robust Multifunctional Sandwich Panel Design with Trabecular Structures by the Use of Additive Manufacturing Technology for a New De-icing System. <i>Technologies</i> , 2017, 5, 35.	3.0	25
61	Development and Characterisation of Aluminium Matrix Nanocomposites AlSi10Mg/MgAl <sub>2</sub> O <sub>4</sub> by Laser Powder Bed Fusion. <i>Metals</i> , 2018, 8, 175.	1.0	24
62	Evaluation of Corrosion Resistance of Alloy 625 Obtained by Laser Powder Bed Fusion. <i>Journal of the Electrochemical Society</i> , 2019, 166, C3399-C3408.	1.3	24
63	A sensor for direct measurement of small convective heat fluxes: Validation and application to micro-structured surfaces. <i>Experimental Thermal and Fluid Science</i> , 2014, 55, 42-53.	1.5	23
64	LASER POWDER BED FUSION OF ALUMINUM ALLOYS. <i>Acta Metallurgica Slovaca</i> , 2017, 23, 276-282.	0.3	22
65	Role of the chemical homogenization on the microstructural and mechanical evolution of prolonged heat-treated laser powder bed fused Inconel 625. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 796, 140007.	2.6	21
66	Hot deformation behavior of Zr-1%Nb alloy: Flow curve analysis and microstructure observations. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 696, 366-373.	2.6	19
67	Human Hand: Kinematics, Statics, and Dynamics. , 2011, , .		16
68	Heat Transfer Enhancement by Finned Heat Sinks with Micro-structured Roughness. <i>Journal of Physics: Conference Series</i> , 2014, 494, 012009.	0.3	16
69	Microstructure and Selective Corrosion of Alloy 625 Obtained by Means of Laser Powder Bed Fusion. <i>Materials</i> , 2019, 12, 1742.	1.3	16
70	In situ alloying of AlSi10Mg-5Åwt% Ni through laser powder bed fusion and subsequent heat treatment. <i>Journal of Alloys and Compounds</i> , 2022, 904, 164081.	2.8	16
71	Corrosion resistance in chloride solution of the AlSi10Mg alloy obtained by means of LPBF. <i>Surface and Interface Analysis</i> , 2019, 51, 1159-1164.	0.8	15
72	Influence of cryorolling on properties of L-PBF 316l stainless steel tested at 298K and 77K. <i>Acta Metallurgica Slovaca</i> , 2019, 25, 283-290.	0.3	15

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73	Strengthening strategies for an Al alloy processed by in-situ alloying during laser powder bed fusion. <i>Materials and Design</i> , 2021, 212, 110247.	3.3	15
74	SiC-based multilayered composites containing short carbon fibres obtained by tape casting. <i>Composites Science and Technology</i> , 2009, 69, 1772-1776.	3.8	14
75	Alloying AlSi10Mg and Cu powders in laser Single Scan Tracks, melt spinning, and Laser Powder Bed Fusion. <i>Journal of Alloys and Compounds</i> , 2020, 821, 153538.	2.8	14
76	A357 Alloy by LPBF for Industry Applications. <i>Materials</i> , 2020, 13, 1488.	1.3	14
77	Design and characterization of trabecular structures for an anti-icing sandwich panel produced by additive manufacturing. <i>Journal of Sandwich Structures and Materials</i> , 2020, 22, 1111-1131.	2.0	13
78	Preparation and properties of NiAl(Si)/Al <sub>2</sub> O <sub>3</sub> co-continuous composites obtained by reactive metal penetration. <i>Composites Science and Technology</i> , 2009, 69, 1777-1782.	3.8	12
79	High-performance microwave waveguide devices produced by laser powder bed fusion process. <i>Procedia CIRP</i> , 2019, 79, 85-88.	1.0	11
80	3D Printing of a Monolithic K/Ka-Band Dual-Circular Polarization Antenna-Feeding Network. <i>IEEE Access</i> , 2021, 9, 88243-88255.	2.6	11
81	Low-Power Laser Powder Bed Fusion Processing of Scalmalloy®. <i>Materials</i> , 2022, 15, 3123.	1.3	11
82	NiAl(Si)/Al <sub>2</sub> O <sub>3</sub> co-continuous composites by double reactive metal penetration into silica preforms. <i>Intermetallics</i> , 2008, 16, 580-583.	1.8	10
83	Integration of RF functionalities in microwave waveguide components through 3D metal printing. , 2017, , .		10
84	Living wearables: Bacterial reactive glove. <i>BioSystems</i> , 2022, 218, 104691.	0.9	10
85	Towards a hand exoskeleton for a smart EVA glove. , 2010, , .		9
86	Banded microstructures in rapidly solidified Al-3 wt% Er. <i>Intermetallics</i> , 2020, 119, 106724.	1.8	9
87	3D Printing: 3D Printing of Conductive Complex Structures with In Situ Generation of Silver Nanoparticles ( <i>Adv. Mater.</i> 19/2016). <i>Advanced Materials</i> , 2016, 28, 3711-3711.	11.1	7
88	3D Printing of Ka band Orthomode Transducers. , 2018, , .		7
89	Short Heat Treatments for the F357 Aluminum Alloy Processed by Laser Powder Bed Fusion. <i>Materials</i> , 2021, 14, 6157.	1.3	7
90	Homogenization of an Al alloy processed by laser powder bed fusion in-situ alloying. <i>Journal of Alloys and Compounds</i> , 2022, 904, 164079.	2.8	7

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91	TiO <sub>2</sub> Nanotube Array as Efficient Transparent Photoanode in Dye-Sensitized Solar Cell with High Electron Lifetime. Acta Physica Polonica A, 2013, 123, 376-379.	0.2	6
92	Manufacturing of waveguide components for SatCom through selective laser melting. , 2017, , .		6
93	Electromagnetic and mechanical analyses of a 3D-printed ka-band integrated twist and orthomode transducer. , 2019, , .		6
94	Understanding Friction and Wear Behavior at the Nanoscale of Aluminum Matrix Composites Produced by Laser Powder Bed Fusion. Advanced Engineering Materials, 2020, 22, 1900815.	1.6	6
95	Effect of Heat Treatment on Microstructure and Selective Corrosion of LPBF-ALSi10Mg by Means of SKPFM and Exo-Electron Emission. Materials, 2021, 14, 5602.	1.3	5
96	Enhanced Efficiency and Reduced Side Lobe Level Convex Conformal Reflectarray. Applied Sciences (Switzerland), 2021, 11, 9893.	1.3	5
97	Stress Corrosion Cracking of Additively Manufactured Alloy 625. Materials, 2021, 14, 6115.	1.3	5
98	TiO <sub>2</sub> nanotube-based smart 3D electrodes by anodic oxidation of additively manufactured Ti6Al4V structures. Materials Today Communications, 2018, 15, 165-170.	0.9	4
99	An Automatic on Top Analysis of Single Scan Tracks to Evaluate the Laser Powder Bed Fusion Building Parameters. Materials, 2021, 14, 5171.	1.3	4
100	Nanosized Gold and Silver Spherical, Spiky, and Multi-branched Particles. , 2014, , 179-212.		3
101	Additive manufacturing of antenna-feed chains. , 2017, , .		3
102	Failure mode analysis on compression of lattice structures with internal cooling channels produced by laser powder bed fusion. Advances in Manufacturing, 2021, 9, 403-413.	3.2	3
103	Additive Manufacturing of RF Waveguide Components. , 0, , .		3
104	Wear and Corrosion Resistance of AlSi10Mg/CP-Ti Metal-Metal Composite Materials Produced by Electro-Sinter-Forging. Materials, 2021, 14, 6761.	1.3	2
105	Cryogenic material properties of additive manufactured 316L stainless steel. IOP Conference Series: Materials Science and Engineering, 2022, 1241, 012047.	0.3	2
106	Shape-Controlled Synthesis of Silver Nature-Like Spiky Particles for Piezoresistive Sensor Applications. European Journal of Inorganic Chemistry, 2014, 2014, 2711-2719.	1.0	1
107	Application of selective laser melting to the manufacturing of antenna-feed chain components. , 2017, , .		1
108	Laser powder bed fusion of aluminum, titanium and nickel based alloys: Materials and design investigations. , 2017, , .		1

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109	Additive Manufacturing Technology for High Performances Feed Horn. , 2018, , .		1
110	Production of Dense Cu-10Sn Part by Laser Powder Bed Fusion with Low Surface Roughness and High Dimensional Accuracy. Materials, 2022, 15, 3352.	1.3	1