

# Wen-Cai Liu

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3803977/publications.pdf>

Version: 2024-02-01

90  
papers

2,318  
citations

201385

27  
h-index

264894

42  
g-index

91  
all docs

91  
docs citations

91  
times ranked

984  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of Y and Gd content on the microstructure and mechanical properties of Mg-Y-RE alloys. <i>Journal of Magnesium and Alloys</i> , 2019, 7, 345-354.	5.5	154
2	Effect of Gd content on high temperature mechanical properties of Mg-Gd-Y-Zr alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 651, 840-847.	2.6	89
3	Plastic deformation and heat treatment of Mg-Li alloys: a review. <i>Journal of Materials Science and Technology</i> , 2022, 99, 193-206.	5.6	85
4	Effect of Gd content on microstructure and mechanical properties of Mg-Gd-Y-Zr alloys under peak-aged condition. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 615, 79-86.	2.6	72
5	Effect of Y content on microstructure and mechanical properties of as-cast Mg-8Li-3Al-2Zn alloy with duplex structure. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 650, 240-247.	2.6	70
6	Grain refinement and fatigue strengthening mechanisms in as-extruded Mg-6Zn-0.5Zr and Mg-10Gd-3Y-0.5Zr magnesium alloys by shot peening. <i>International Journal of Plasticity</i> , 2013, 49, 16-35.	4.1	66
7	Effect of Al additions on grain refinement and mechanical properties of Mg-Sm alloys. <i>Journal of Alloys and Compounds</i> , 2015, 620, 172-179.	2.8	66
8	Effect of cooling rate on the microstructure and mechanical properties of sand-casting Mg-10Gd-3Y-0.5Zr magnesium alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 562, 152-160.	2.6	64
9	High temperature mechanical behavior of low-pressure sand-cast Mg-Gd-Y-Zr magnesium alloy. <i>Journal of Magnesium and Alloys</i> , 2019, 7, 597-604.	5.5	61
10	Microstructure and tensile properties of as-extruded Mg-Li-Zn-Gd alloys reinforced with icosahedral quasicrystal phase. <i>Materials &amp; Design</i> , 2015, 66, 162-168.	5.1	58
11	Heat treatment, microstructure and mechanical properties of a Mg-Gd-Y alloy grain-refined by Al additions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 576, 298-305.	2.6	57
12	Effect of extrusion ratio on microstructure and mechanical properties of Mg-8Li-3Al-2Zn-0.5Y alloy with duplex structure. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 692, 9-16.	2.6	53
13	Effect of chemical composition on the microstructure, tensile properties and fatigue behavior of sand-cast Mg-Gd-Y-Zr alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 612, 293-301.	2.6	52
14	Effect of solid solution and aging treatments on the microstructures evolution and mechanical properties of Mg-14Gd-3Y-1.8Zn-0.5Zr alloy. <i>Journal of Alloys and Compounds</i> , 2013, 557, 91-97.	2.8	50
15	Fatigue behavior and plane-strain fracture toughness of sand-cast Mg-10Gd-3Y-0.5Zr magnesium alloy. <i>Materials &amp; Design</i> , 2014, 59, 466-474.	5.1	46
16	Mechanical and Tribological Characterization of Al-Mg <sub>2</sub> Si Composites After Yttrium Addition and Heat Treatment. <i>Journal of Materials Engineering and Performance</i> , 2014, 23, 1146-1156.	1.2	46
17	Effect of heat treatment on tensile properties, impact toughness and plane-strain fracture toughness of sand-cast Mg-6Gd-3Y-0.5Zr magnesium alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 705, 402-410.	2.6	44
18	Effect of heat treatment on microstructure, mechanical properties and fracture behaviors of sand-cast Mg-4Y-3Nd-1Gd-0.2Zn-0.5Zr alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 677, 411-420.	2.6	43

#	ARTICLE	IF	CITATIONS
19	Preparation of Mg-8Li-3Al-2Zn-0.5Nd (Zr) alloys semisolid slurry by electromagnetic stirring. <i>Materials and Design</i> , 2016, 95, 398-409.	3.3	41
20	Microstructure and mechanical properties of as-cast and extruded Mg-8Li-3Al-2Zn-0.5Nd alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 621, 198-203.	2.6	40
21	Microstructural evolution and mechanical properties of cast Al-2Li-2Cu-0.5Mg-0.2Zr alloy during heat treatment. <i>Materials Characterization</i> , 2017, 132, 312-319.	1.9	40
22	Preparation of an Mg-8Li-3Al-2Zn alloy semisolid slurry by low frequency electro-magnetic stirring. <i>Materials and Design</i> , 2015, 84, 53-63.	3.3	39
23	Influence of heat treatment on microstructure and mechanical properties of as-cast Mg-8Li-3Al-2Zn-xY alloy with duplex structure. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 669, 87-94.	2.6	38
24	Influence of Er addition on microstructure and mechanical properties of as-cast Mg-10Li-5Zn alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 739, 395-403.	2.6	36
25	Effect of Shot Peening on Surface Characteristics and Fatigue Properties of T5-Treated ZK60 Alloy. <i>Materials Transactions</i> , 2009, 50, 791-798.	0.4	34
26	Balance of mechanical properties of Mg-8Li-3Al-2Zn-0.5Y alloy by solution and low-temperature aging treatment. <i>Journal of Alloys and Compounds</i> , 2019, 791, 655-664.	2.8	34
27	Microstructure and mechanical properties of rheo-squeeze casting AZ91-Ca magnesium alloy prepared by gas bubbling process. <i>Materials &amp; Design</i> , 2015, 67, 1-8.	5.1	30
28	Origin of the age-hardening and age-softening response in Mg-Li-Zn based alloys. <i>Acta Materialia</i> , 2022, 226, 117673.	3.8	29
29	Microstructure evolution of semi-solid Mg-10Gd-3Y-0.5Zr alloy during isothermal heat treatment. <i>Journal of Magnesium and Alloys</i> , 2013, 1, 39-46.	5.5	27
30	Effect of heat treatment on microstructures and mechanical properties of sand-cast Mg-4Y-2Nd-1Gd-0.4Zr magnesium alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, 1540-1548.	1.7	26
31	Microstructure and mechanical properties of repair welds of low-pressure sand-cast Mg-Y-RE-Zr alloy by tungsten inert gas welding. <i>Journal of Magnesium and Alloys</i> , 2022, 10, 180-194.	5.5	26
32	Effects of Gd and Zr additions on the microstructures and high-temperature mechanical behavior of Mg-Gd-Y-Zr magnesium alloys in the product form of a large structural casting. <i>Journal of Materials Research</i> , 2015, 30, 3461-3473.	1.2	25
33	Microstructure characterization and mechanical properties of the as-cast and as-extruded Mg-xLi-5Zn-0.5Er (x = 8, 10 and 12 wt%) alloys. <i>Materials Characterization</i> , 2020, 159, 110008.	1.9	25
34	Microstructural evolution, mechanical properties and corrosion behavior of as-cast Mg-5Li-3Al-2Zn alloy with different Sn and Y addition. <i>Journal of Materials Science and Technology</i> , 2021, 72, 16-22.	5.6	25
35	Effects of Cooling Rate and Solute Content on the Grain Refinement of Mg-Gd-Y Alloys by Aluminum. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 4665-4678.	1.1	24
36	Microstructure characterization and high-temperature shear strength of the Mg-10Gd-3Y-1.2Zn-0.5Zr alloy in the as-cast and aged conditions. <i>Journal of Alloys and Compounds</i> , 2015, 619, 826-833.	2.8	24

#	ARTICLE	IF	CITATIONS
37	Effect of rolling strain on microstructure and tensile properties of dual-phase Mg <sub>8</sub> Li <sub>3</sub> Al <sub>2</sub> Zn <sub>0.5</sub> Y alloy. <i>Journal of Materials Science and Technology</i> , 2018, 34, 2256-2262.	5.6	24
38	Microstructure and mechanical properties of sand-cast Mg-6Gd-3Y-0.5Zr alloy subject to thermal cycling treatment. <i>Journal of Materials Science and Technology</i> , 2020, 43, 208-219.	5.6	24
39	Effect of heat treatment on microstructures and mechanical properties of sand-cast Mg-10Gd-3Y-0.5Zr magnesium alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2014, 24, 611-618.	1.7	23
40	Strengthening-toughening methods and mechanisms of Mg-Li alloy: a review. <i>Rare Metals</i> , 2022, 41, 1176-1188.	3.6	21
41	Role of extrusion temperature on the microstructure evolution and tensile properties of an ultralight Mg-Li-Zn-Er alloy. <i>Journal of Alloys and Compounds</i> , 2021, 876, 160181.	2.8	20
42	Influence of heat treatment on microstructures and mechanical properties of gravity cast Mg <sub>4.2</sub> Zn <sub>1.5</sub> RE <sub>0.7</sub> Zr magnesium alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2013, 23, 3611-3620.	1.7	19
43	Effects of chemical composition on the microstructure and mechanical properties of gravity cast Mg <sub>x</sub> Zn <sub>y</sub> RE <sub>z</sub> Zr alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2014, 594, 52-61.	2.6	19
44	Effect of heat treatment on the stress corrosion cracking behavior of cast Mg-3Nd-3Gd-0.2Zn-0.5Zr alloy in a 3.5Åwt% NaCl salt spray environment. <i>Materials Characterization</i> , 2022, 183, 111630.	1.9	19
45	Achieving low-temperature Zr alloying for microstructural refinement of sand-cast Mg-Gd-Y alloy by employing zirconium tetrachloride. <i>Materials Characterization</i> , 2021, 171, 110727.	1.9	18
46	Microstructure and mechanical properties of as-cast and solid solution treated Mg <sub>8</sub> Li <sub>x</sub> Al <sub>y</sub> Zn alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2021, 31, 925-938.	1.7	18
47	High cycle fatigue behavior and mechanical performance of a novel sand-cast Mg-Nd-Gd alloy: Effect of heat treatment. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 813, 141172.	2.6	18
48	Microstructure, mechanical properties and fracture behavior of peak-aged Mg <sub>34</sub> Y <sub>32</sub> Nd <sub>31</sub> Gd alloys under different aging conditions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 561, 303-311.	2.6	16
49	The role of Gd on the microstructural evolution and mechanical properties of Mg-3Nd-0.2Zn-0.5Zr alloy. <i>Materials Characterization</i> , 2021, 175, 111076.	1.9	16
50	Influence of Pressure and Temperature on Microstructure and Mechanical Behavior of Squeeze Cast Mg-10Gd-3Y-0.5Zr Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 4104-4115.	1.1	15
51	Microstructure and mechanical properties of as-cast Mg <sub>8</sub> Li <sub>x</sub> Zn <sub>y</sub> Gd (x=1, 2, 3, 4; y=1, 2) alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2019, 29, 1211-1222.	1.7	15
52	High-cycle fatigue behavior of Mg-8Li-3Al-2Zn-0.5Y alloy under different states. <i>Journal of Magnesium and Alloys</i> , 2021, 9, 1609-1618.	5.5	15
53	Effect of solution treatment on microstructure and mechanical properties of cast Al <sub>3</sub> Li <sub>1.5</sub> Cu <sub>0.2</sub> Zr alloy. <i>Journal of Materials Research</i> , 2016, 31, 1124-1132.	1.2	14
54	Microstructure and High Temperature Tensile Properties of Mg <sub>10</sub> Gd <sub>5</sub> Y <sub>0.5</sub> Zr Alloy after Thermo-Mechanical Processing. <i>Metals</i> , 2018, 8, 980.	1.0	14

#	ARTICLE	IF	CITATIONS
55	Effects of Ce-rich RE on microstructure and mechanical properties of as-cast Mg-8Li-3Al-2Zn-0.5Nd alloy with duplex structure. <i>Progress in Natural Science: Materials International</i> , 2019, 29, 103-109.	1.8	14
56	Effects of rotating gas bubble stirring treatment on the microstructures of semi-solid AZ91-2Ca alloy. <i>Journal of Magnesium and Alloys</i> , 2013, 1, 217-223.	5.5	13
57	Effect of complex melt-refining treatment on microstructure and mechanical properties of sand-cast Mg-10Gd-3Y-0.5Zr alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2015, 25, 1811-1821.	1.7	13
58	Fatigue behavior of hot-extruded Mg-10Gd-3Y magnesium alloy. <i>Journal of Materials Research</i> , 2010, 25, 773-783.	1.2	12
59	Low temperature mechanical properties of as-extruded Mg-10Gd-3Y-0.5Zr magnesium alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2012, 22, 2883-2890.	1.7	12
60	High Temperature Tensile and Compressive Behavior of Peak Aged Sand Cast Mg-10Gd-3Y-0.5Zr Alloy. <i>Advanced Engineering Materials</i> , 2016, 18, 671-677.	1.6	12
61	Preparation and rheo-squeeze casting of semi-solid AZ91-2 wt% Ca magnesium alloy by gas bubbling process. <i>Journal of Materials Research</i> , 2015, 30, 825-832.	1.2	11
62	Effect of Zn addition on microstructure and mechanical properties of Mg-9Gd-3Y-0.5Zr alloy. <i>Journal of Materials Research</i> , 2018, 33, 733-744.	1.2	11
63	Effect of Zn Addition on the Microstructure and Mechanical Properties of Cast Mg-10Gd-3.5Er-xZn-0.5Zr Alloys. <i>Acta Metallurgica Sinica (English Letters)</i> , 2020, 33, 1505-1517.	1.5	11
64	Effect of reclaimed sand additions on mechanical properties and fracture behavior of furan no-bake resin sand. <i>China Foundry</i> , 2017, 14, 128-137.	0.5	10
65	Influence of heat treatment on cyclic deformation and low-cycle fatigue behavior of sand-cast Mg-10Gd-3Y-0.5Zr magnesium alloy. <i>Journal of Materials Research</i> , 2017, 32, 2179-2187.	1.2	10
66	Effects of Al and Y Addition on Microstructures and Mechanical Properties of As Cast Mg-14Li Based Alloy. <i>Advanced Engineering Materials</i> , 2019, 21, 1800755.	1.6	10
67	Effects of processing parameters on microstructure of semi-solid slurry of AZ91D magnesium alloy prepared by gas bubbling. <i>Transactions of Nonferrous Metals Society of China</i> , 2015, 25, 2181-2187.	1.7	9
68	Microstructural Evolution and Mechanical Properties of As Cast and As Extruded Mg-14Li Alloy with Different Zn/Y and Zn/Gd Addition. <i>Advanced Engineering Materials</i> , 2020, 22, 2000480.	1.6	9
69	Addressing the abnormal grain coarsening during post-weld heat treatment of TIG repair welded joint of sand-cast Mg-Y-RE-Zr alloy. <i>Materials Characterization</i> , 2021, 176, 111125.	1.9	9
70	Effect of mold temperature on microstructure and mechanical properties of rheo-squeeze casting Mg-3Nd-0.2Zn-0.4Zr alloy. <i>Journal of Materials Research</i> , 2017, 32, 4206-4218.	1.2	7
71	Formation of non-dendritic microstructures in preparation of semi-solid Mg-RE alloys slurries: Roles of RE content and cooling rate. <i>Journal of Materials Processing Technology</i> , 2020, 279, 116545.	3.1	7
72	Influence of cryogenic treatment on room and low temperature tensile behavior of as-cast Mg-10Gd-3Y-0.5Zr magnesium alloy. <i>Journal of Materials Research</i> , 2016, 31, 419-426.	1.2	6

#	ARTICLE	IF	CITATIONS
73	Effects of minor Y addition on microstructure and mechanical properties of Mg-3Nd-2Zn alloy. <i>Journal of Materials Research</i> , 2017, 32, 3712-3722.	1.2	6
74	Microstructure and corrosion behavior of as-homogenized and as-extruded Mg-3Al-0.5Y alloys (x=4, 8, 12). <i>Transactions of Nonferrous Metals Society of China</i> , 2022, 32, 134-146.	1.7	6
75	Effect of heat treatments on microstructure and mechanical properties of sand cast Al-2Li-2Cu-0.5Mg-0.2Sc-0.2Zr alloy. <i>Transactions of Nonferrous Metals Society of China</i> , 2022, 32, 411-423.	1.7	6
76	Effect of heat treatment on corrosion behavior of low pressure sand cast Mg-10Gd-3Y-0.5Zr alloys. <i>China Foundry</i> , 2016, 13, 276-283.	0.5	5
77	Semi-solid slurry preparation, rheo-die casting and rheo-squeeze casting of an AZ91-2Ca-1.5Ce ignition-proof magnesium alloy by gas-bubbling process. <i>Journal of Materials Research</i> , 2017, 32, 677-686.	1.2	5
78	Effects of pressure and aging treatment on microstructures and mechanical properties of rheo-squeeze casting Mg-3Nd-0.2Zn-0.4Zr alloy. <i>Journal of Materials Research</i> , 2018, 33, 758-771.	1.2	5
79	Microstructural Characteristics and Mechanical Properties of Cast Mg-3Nd-3Gd-xZn-0.5Zr Alloys. <i>Acta Metallurgica Sinica (English Letters)</i> , 2022, 35, 922-940.	1.5	5
80	Smooth and notched fatigue performance of aging treated and shot peened ZK60 magnesium alloy. <i>Journal of Materials Research</i> , 2010, 25, 1375-1387.	1.2	4
81	High cycle fatigue behavior of different regions in a low-pressure sand-cast GW103K magnesium alloy component. <i>Journal of Materials Research</i> , 2014, 29, 2587-2595.	1.2	4
82	Influence of different casting processes on high cycle fatigue behavior of Mg-10Gd-3Y-0.5Zr alloy. <i>Journal of Materials Research</i> , 2016, 31, 2538-2548.	1.2	4
83	Effect of Gd addition on the wear behavior of Mg-10Gd-3Y-0.5Zr alloys. <i>Journal of Materials Research</i> , 2016, 31, 1133-1144.	1.2	3
84	Effect of Different Ageing Processes on Microstructure and Mechanical Properties of Cast Al-3Li-2Cu-0.2Zr Alloy. <i>Acta Metallurgica Sinica (English Letters)</i> , 2020, 33, 1243-1251.	1.5	3
85	Effects of Li content on microstructure and mechanical properties of as-cast Mg-3Al-2Zn-0.5Y alloys. <i>Transactions of Nonferrous Metals Society of China</i> , 2022, 32, 838-849.	1.7	3
86	Effects of Cu content on the microstructure, mechanical property, and hot tearing susceptibility of die casting hypereutectic Al-22Si-0.4Mg alloy. <i>Journal of Materials Research</i> , 2016, 31, 3629-3637.	1.2	2
87	Effect of rotating gas bubble stirring process parameters on purifying effectiveness and mechanical properties of sand-cast Mg-10Gd-3Y-0.5Zr alloy. <i>Journal of Materials Research</i> , 2015, 30, 224-232.	1.2	1
88	High-Cycle Fatigue Behavior of Deep Cryogenic-Elevated Temperature Cycling Treated Sand-Cast Mg-6Gd-3Y-0.5Zr Alloy. <i>Advanced Engineering Materials</i> , 2021, 23, 2100234.	1.6	1
89	High-Cycle Fatigue of Mg-6Gd-3Y-0.5Zr Cast Magnesium Alloys. <i>Springer Proceedings in Physics</i> , 2019, , 515-525.	0.1	1
90	Fracture Behavior of Low-Pressure Sand-Cast Mg-Gd-Y Magnesium Alloy Under Different Types of Loads. <i>Journal of Materials Engineering and Performance</i> , 0, , 1.	1.2	1