

# Guillaume Laplanche

## List of Publications by Year in descending order

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62  
papers

4,832  
citations

159358

30  
h-index

128067

60  
g-index

62  
all docs

62  
docs citations

62  
times ranked

2680  
citing authors

#	ARTICLE	IF	CITATIONS
1	Microstructure evolution and critical stress for twinning in the CrMnFeCoNi high-entropy alloy. <i>Acta Materialia</i> , 2016, 118, 152-163.	3.8	823
2	Reasons for the superior mechanical properties of medium-entropy CrCoNi compared to high-entropy CrMnFeCoNi. <i>Acta Materialia</i> , 2017, 128, 292-303.	3.8	803
3	Temperature dependencies of the elastic moduli and thermal expansion coefficient of an equiatomic, single-phase CoCrFeMnNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2015, 623, 348-353.	2.8	331
4	Elastic moduli and thermal expansion coefficients of medium-entropy subsystems of the CrMnFeCoNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2018, 746, 244-255.	2.8	215
5	Phase stability and kinetics of $\gamma$ -phase precipitation in CrMnFeCoNi high-entropy alloys. <i>Acta Materialia</i> , 2018, 161, 338-351.	3.8	209
6	Oxidation Behavior of the CrMnFeCoNi High-Entropy Alloy. <i>Oxidation of Metals</i> , 2016, 85, 629-645.	1.0	190
7	Analysis of strengthening due to grain boundaries and annealing twin boundaries in the CrCoNi medium-entropy alloy. <i>International Journal of Plasticity</i> , 2020, 124, 155-169.	4.1	167
8	Effect of temperature on the fatigue-crack growth behavior of the high-entropy alloy CrMnFeCoNi. <i>Intermetallics</i> , 2017, 88, 65-72.	1.8	160
9	Microstructural evolution of a CoCrFeMnNi high-entropy alloy after swaging and annealing. <i>Journal of Alloys and Compounds</i> , 2015, 647, 548-557.	2.8	158
10	Thermal activation parameters of plastic flow reveal deformation mechanisms in the CrMnFeCoNi high-entropy alloy. <i>Acta Materialia</i> , 2018, 143, 257-264.	3.8	132
11	Effects of temperature on mechanical properties and deformation mechanisms of the equiatomic CrFeNi medium-entropy alloy. <i>Acta Materialia</i> , 2021, 204, 116470.	3.8	124
12	Effect of temperature and texture on the reorientation of martensite variants in NiTi shape memory alloys. <i>Acta Materialia</i> , 2017, 127, 143-152.	3.8	122
13	Effects of cryogenic temperature and grain size on fatigue-crack propagation in the medium-entropy CrCoNi alloy. <i>Acta Materialia</i> , 2020, 200, 351-365.	3.8	76
14	Temperature and load-ratio dependent fatigue-crack growth in the CrMnFeCoNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2019, 794, 525-533.	2.8	74
15	Columnar to equiaxed transition and grain refinement of cast CrCoNi medium-entropy alloy by microalloying with titanium and carbon. <i>Journal of Alloys and Compounds</i> , 2019, 775, 1068-1076.	2.8	71
16	Powder metallurgy processing and compressive properties of Ti3AlC2/Al composites. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 530, 168-173.	2.6	68
17	Superior low-cycle fatigue properties of CoCrNi compared to CoCrFeMnNi. <i>Scripta Materialia</i> , 2021, 194, 113667.	2.6	66
18	Laser metal deposition of compositionally graded TiZrNbTa refractory high-entropy alloys using elemental powder blends. <i>Additive Manufacturing</i> , 2019, 25, 252-262.	1.7	62

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19	Growth kinetics of $\gamma$ -phase precipitates and underlying diffusion processes in CrMnFeCoNi high-entropy alloys. <i>Acta Materialia</i> , 2020, 199, 193-208.	3.8	51
20	Interdiffusion in Cr-Fe-Co-Ni medium-entropy alloys. <i>Intermetallics</i> , 2020, 122, 106789.	1.8	49
21	Microstructures and mechanical properties of Al-base composite materials reinforced by Al-Cu-Fe particles. <i>Journal of Alloys and Compounds</i> , 2010, 493, 453-460.	2.8	47
22	Laser metal deposition of a refractory TiZrNbHfTa high-entropy alloy. <i>Additive Manufacturing</i> , 2018, 24, 386-390.	1.7	47
23	Effects of Cr/Ni ratio on physical properties of Cr-Mn-Fe-Co-Ni high-entropy alloys. <i>Acta Materialia</i> , 2022, 227, 117693.	3.8	47
24	Orientation dependence of stress-induced martensite formation during nanoindentation in NiTi shape memory alloys. <i>Acta Materialia</i> , 2014, 68, 19-31.	3.8	45
25	Sudden stress-induced transformation events during nanoindentation of NiTi shape memory alloys. <i>Acta Materialia</i> , 2014, 78, 144-160.	3.8	44
26	Processing of a single-crystalline CrCoNi medium-entropy alloy and evolution of its thermal expansion and elastic stiffness coefficients with temperature. <i>Scripta Materialia</i> , 2020, 177, 44-48.	2.6	44
27	Temperature dependence of elastic moduli in a refractory HfNbTaTiZr high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2019, 799, 538-545.	2.8	42
28	Effect of Temperature and Texture on Hall-Petch Strengthening by Grain and Annealing Twin Boundaries in the MnFeNi Medium-Entropy Alloy. <i>Metals</i> , 2019, 9, 84.	1.0	42
29	Deformation mechanisms in a superelastic NiTi alloy: An in-situ high resolution digital image correlation study. <i>Materials and Design</i> , 2020, 191, 108622.	3.3	41
30	Comparison of cryogenic deformation of the concentrated solid solutions CoCrFeMnNi, CoCrNi and CoNi. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 783, 139290.	2.6	41
31	Effect of Al, Ti and C additions on Widmanstätten microstructures and mechanical properties of cast Al <sub>0.6</sub> CoCrFeNi compositionally complex alloys. <i>Materials and Design</i> , 2019, 184, 108201.	3.3	34
32	High-Temperature Oxidation in Dry and Humid Atmospheres of the Equiatomic CrMnFeCoNi and CrCoNi High- and Medium-Entropy Alloys. <i>Oxidation of Metals</i> , 2021, 95, 105-133.	1.0	34
33	Processing of NiTi shape memory sheets – Microstructural heterogeneity and evolution of texture. <i>Journal of Alloys and Compounds</i> , 2015, 651, 333-339.	2.8	29
34	Welding of high-entropy alloys and compositionally complex alloys – an overview. <i>Welding in the World, Le Soudage Dans Le Monde</i> , 2021, 65, 1645-1659.	1.3	29
35	Laser metal deposition of refractory high-entropy alloys for high-throughput synthesis and structure-property characterization. <i>International Journal of Extreme Manufacturing</i> , 2021, 3, 015201.	6.3	27
36	Compressive Behavior of $\langle \text{Ti} \rangle_3 \langle \text{Al} \rangle_2$ and $\langle \text{Ti} \rangle_3 \langle \text{Al} \rangle_{0.8} \langle \text{Sn} \rangle_{0.2}$ Phases at Room Temperature. <i>Journal of the American Ceramic Society</i> , 2013, 96, 567-576.	1.9	27

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37	Microstructural and mechanical study of an Al matrix composite reinforced by Al-Cu-Fe icosahedral particles. <i>Journal of Materials Research</i> , 2010, 25, 957-965.	1.2	26
38	Tracer diffusion in the $\gamma$ phase of the CoCrFeMnNi system. <i>Acta Materialia</i> , 2021, 203, 116498.	3.8	24
39	Mechanical properties of Al-Cu-Fe quasicrystalline and crystalline phases: An analogy. <i>Intermetallics</i> , 2014, 50, 54-58.	1.8	23
40	On the onset of deformation twinning in the CrFeMnCoNi high-entropy alloy using a novel tensile specimen geometry. <i>Intermetallics</i> , 2019, 110, 106469.	1.8	21
41	Assessment of strain hardening in copper single crystals using in situ SEM microshear experiments. <i>Acta Materialia</i> , 2016, 113, 320-334.	3.8	20
42	On the influence of crystallography and dendritic microstructure on micro shear behavior of single crystal Ni-based superalloys. <i>Acta Materialia</i> , 2018, 160, 173-184.	3.8	18
43	Plasticity induced by nanoindentation in a CrCoNi medium-entropy alloy studied by accurate electron channeling contrast imaging revealing dislocation-low angle grain boundary interactions. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 817, 141364.	2.6	14
44	Influence of machining on the surface integrity of high- and medium-entropy alloys. <i>Materials Chemistry and Physics</i> , 2022, 275, 125271.	2.0	14
45	Synthesis and brittle-to-ductile transition of the $\gamma$ -Al <sub>0.7</sub> Cu <sub>0.2</sub> Fe <sub>0.1</sub> tetragonal phase. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 527, 4515-4518.	2.6	13
46	Al-matrix composite materials reinforced by Al-Cu-Fe particles. <i>Journal of Physics: Conference Series</i> , 2010, 240, 012013.	0.3	12
47	Elevated-temperature cyclic deformation mechanisms of CoCrNi in comparison to CoCrFeMnNi. <i>Scripta Materialia</i> , 2022, 220, 114926.	2.6	10
48	Spark plasma sintering synthesis and mechanical spectroscopy of the $\gamma$ -Al <sub>0.7</sub> Cu <sub>0.2</sub> Fe <sub>0.1</sub> phase. <i>Journal of Materials Science</i> , 2012, 47, 169-175.	1.7	8
49	Benchmark dataset of the effect of grain size on strength in the single-phase FCC CrCoNi medium entropy alloy. <i>Data in Brief</i> , 2019, 27, 104592.	0.5	8
50	On Shear Testing of Single Crystal Ni-Base Superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 3951-3962.	1.1	7
51	Inner relaxations in equiatomic single-phase high-entropy cantor alloy. <i>Journal of Alloys and Compounds</i> , 2022, 920, 165999.	2.8	7
52	Plasticity of the $\gamma$ -Al <sub>7</sub> Cu <sub>2</sub> Fe phase. <i>Journal of Alloys and Compounds</i> , 2016, 665, 144-151.	2.8	6
53	Data compilation regarding the effects of grain size and temperature on the strength of the single-phase FCC CrFeNi medium-entropy alloy. <i>Data in Brief</i> , 2021, 34, 106712.	0.5	6
54	Laser metal deposition of Al <sub>0.6</sub> CoCrFeNi with Ti & C additions using elemental powder blends. <i>Surface and Coatings Technology</i> , 2021, 418, 127233.	2.2	6

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55	Design of a new wrought CrCoNi-based medium-entropy superalloy C-264 for high-temperature applications. <i>Materials and Design</i> , 2021, 211, 110174.	3.3	5
56	Influence of Mo/Cr ratio on the lamellar microstructure and mechanical properties of as-cast Al <sub>0.75</sub> CoCrFeNi compositionally complex alloys. <i>Journal of Alloys and Compounds</i> , 2022, 899, 163183.	2.8	5
57	Data compilation on the effect of grain size, temperature, and texture on the strength of a single-phase FCC MnFeNi medium-entropy alloy. <i>Data in Brief</i> , 2020, 28, 104807.	0.5	3
58	Experimental and Theoretical Investigation on Phase Formation and Mechanical Properties in Cr-Co-Ni Alloys Processed Using a Novel Thin-Film Quenching Technique. <i>ACS Combinatorial Science</i> , 2020, 22, 232-247.	3.8	3
59	Data regarding the influence of Al, Ti, and C additions to as-cast Al <sub>0.6</sub> CoCrFeNi compositionally complex alloys on microstructures and mechanical properties. <i>Data in Brief</i> , 2019, 27, 104742.	0.5	1
60	Data related to the growth of $\gamma$ -phase precipitates in CrMnFeCoNi high-entropy alloys: Temporal evolutions of precipitate dimensions and concentration profiles at interfaces. <i>Data in Brief</i> , 2020, 33, 106449.	0.5	1
61	Strain Accommodation in a Superelastic NiTi Alloy: A High Resolution Digital Image Correlation and Transmission Electron Microscopy Study. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
62	Precipitation Hardenable High Entropy Alloy for Tooling Applications. <i>MRS Advances</i> , 2019, 4, 1427-1433.	0.5	0