

# Kevin P Plucknett

## List of Publications by Year in descending order

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102  
papers

3,204  
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186265  
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111  
docs citations

111  
times ranked

3033  
citing authors

#	ARTICLE	IF	CITATIONS
1	New Insight into Agarose Gel Mechanical Properties. <i>Biomacromolecules</i> , 2000, 1, 730-738.	5.4	454
2	Microstructural Design of Silicon Nitride with Improved Fracture Toughness: I, Effects of Grain Shape and Size. <i>Journal of the American Ceramic Society</i> , 1998, 81, 2821-2830.	3.8	382
3	Dense high-entropy boride ceramics with ultra-high hardness. <i>Scripta Materialia</i> , 2019, 164, 135-139.	5.2	177
4	Influence of thermal history on the structural and mechanical properties of agarose gels. <i>Biopolymers</i> , 2001, 59, 131-144.	2.4	171
5	Microstructure and mechanical properties of high-entropy borides derived from boro/carbothermal reduction. <i>Journal of the European Ceramic Society</i> , 2019, 39, 3920-3924.	5.7	127
6	Friction stir processing of Al/SiC composites fabricated by powder metallurgy. <i>Journal of Materials Processing Technology</i> , 2013, 213, 1900-1907.	6.3	107
7	Effect of sucrose on agarose gels mechanical behaviour. <i>Carbohydrate Polymers</i> , 2003, 54, 83-95.	10.2	66
8	Measurements of Interdiffusion Coefficients of Transition Metals in Layered Li <sup>+</sup> Ni <sup>2+</sup> Mn <sup>4+</sup> Co Oxide Core-Shell Materials during Sintering. <i>Chemistry of Materials</i> , 2015, 27, 7765-7773.	6.7	61
9	Processing of Tape-Cast Laminates Prepared from Fine Alumina/Zirconia Powders. <i>Journal of the American Ceramic Society</i> , 1994, 77, 2145-2153.	3.8	57
10	Tape Casting of Fine Alumina/Zirconia Powders for Composite Fabrication. <i>Journal of the American Ceramic Society</i> , 1994, 77, 2137-2144.	3.8	53
11	Resistance Growth in Lithium-Ion Pouch Cells with LiNi <sub>0.80</sub> Co <sub>0.15</sub> Al <sub>0.05</sub> O <sub>2</sub> Positive Electrodes and Proposed Mechanism for Voltage Dependent Charge-Transfer Resistance. <i>Journal of the Electrochemical Society</i> , 2019, 166, A1779-A1784.	2.9	50
12	Reciprocating wear behaviour of TiC-stainless steel cermets. <i>Tribology International</i> , 2017, 105, 250-263.	5.9	49
13	Kinetics of Iron Ore Reduction by Methane for Chemical Looping Combustion. <i>Energy &amp; Fuels</i> , 2014, 28, 1387-1395.	5.1	48
14	The sliding wear of TiC and Ti(C,N) cermets prepared with a stoichiometric Ni3Al binder. <i>Wear</i> , 2014, 318, 153-167.	3.1	48
15	The reciprocating wear behaviour of TiC-304L stainless steel composites prepared by melt infiltration. <i>Wear</i> , 2013, 303, 321-333.	3.1	43
16	Microstructure instability in TiC-316L stainless steel cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016, 58, 74-83.	3.8	43
17	Properties of Ni3Al-bonded Titanium Carbide Ceramics. <i>Journal of the European Ceramic Society</i> , 1998, 18, 395-400.	5.7	42
18	In Situ XRD Studies During Synthesis of Single-Crystal LiNi <sub>2</sub> , LiNi <sub>0.975</sub> Mg <sub>0.025</sub> O <sub>2</sub> , and LiNi <sub>0.95</sub> Al <sub>0.05</sub> O <sub>2</sub> Cathode Materials. <i>Journal of the Electrochemical Society</i> , 2020, 167, 100501.	2.9	41

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19	Processing and Microstructure Development of Titanium Carbide–Nickel Aluminide Composites Prepared by Melt Infiltration/Sintering (MIS). <i>Journal of the American Ceramic Society</i> , 2001, 84, 55-61.	3.8	40
20	Flexure Strength of Melt-Infiltration-Processed Titanium Carbide/Nickel Aluminide Composites. <i>Journal of the American Ceramic Society</i> , 1998, 81, 1839-1844.	3.8	39
21	Microstructural development in porous $\gamma$ -Si <sub>3</sub> N <sub>4</sub> ceramics prepared with low volume RE <sub>2</sub> O <sub>3</sub> –MgO–(CaO) additions (RE=La, Nd, Y, Yb). <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2008, 489, 337-350.	5.6	37
22	The effects of TiC grain size and steel binder content on the reciprocating wear behaviour of TiC-316L stainless steel cermets. <i>Wear</i> , 2016, 350-351, 116-129.	3.1	37
23	The reciprocating wear behaviour of Ti–Ni <sub>3</sub> Al cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2012, 33, 44-52.	3.8	34
24	Effect of carbon content on the microstructure and mechanical properties of high-entropy (Ti <sub>0.2</sub> Zr <sub>0.2</sub> Nb <sub>0.2</sub> Ta <sub>0.2</sub> Mo <sub>0.2</sub> ) <sub>x</sub> ceramics. <i>Journal of the European Ceramic Society</i> , 2022, 42, 336-343.	5.7	31
25	Effect of starch filler content and sintering temperature on the processing of porous 3Y–ZrO <sub>2</sub> ceramics. <i>Journal of Materials Processing Technology</i> , 2009, 209, 590-598.	6.3	30
26	The effects of Mo <sub>2</sub> C additions on the microstructure and sliding wear of TiC <sub>0.3</sub> Ni <sub>0.7</sub> –Ni <sub>3</sub> Al cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2015, 50, 227-239.	3.8	30
27	Fine-grained dual-phase high-entropy ceramics derived from boro/carbothermal reduction. <i>Journal of the European Ceramic Society</i> , 2021, 41, 3189-3195.	5.7	30
28	Melt-infiltration processing of TiC/Ni <sub>3</sub> Al composites. <i>Journal of Materials Research</i> , 1997, 12, 2515-2517.	2.6	29
29	Plane stress essential work of fracture of “pseudo-ductile” gelatin/maltodextrin biopolymer gel composites. <i>Polymer</i> , 2000, 41, 6833-6841.	3.8	29
30	“Ductile” mixed biopolymer gel composites. <i>Polymer</i> , 2000, 41, 2319-2323.	3.8	29
31	Low-temperature densification of high-entropy (Ti,Zr,Nb,Ta,Mo) <sub>x</sub> Co composites with high hardness and high toughness. <i>Journal of Advanced Ceramics</i> , 2022, 11, 805-813.	17.4	29
32	Environmental ageing effects in a silicon carbide fibre-reinforced glass–ceramic matrix composite. <i>Journal of Microscopy</i> , 1995, 177, 251-263.	1.8	28
33	Processing of porous yttria-stabilized zirconia by tape-casting. <i>Ceramics International</i> , 2008, 34, 1983-1988.	4.8	28
34	The effects of metal binder content and carbide grain size on the aqueous corrosion behaviour of Ti–316L stainless steel cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2014, 44, 129-141.	3.8	25
35	Effects of zirconia additions on the superplasticity of aluminazirconia composites. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1996, 221, 102-112.	5.6	24
36	In-situ SEM observation of the fracture behaviour of titanium carbide/nickel aluminide composites. <i>Journal of Microscopy</i> , 1997, 185, 206-216.	1.8	24

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37	A comparison of Ti-Ni and Ti-Sn binary alloys processed using powder metallurgy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 644, 392-404.	5.6	24
38	Processing of porous yttria-stabilized zirconia tapes: Influence of starch content and sintering temperature. <i>Ceramics International</i> , 2009, 35, 1783-1791.	4.8	21
39	Spherical indentation damage in Ti-Ni3Al composites. <i>International Journal of Refractory Metals and Hard Materials</i> , 2012, 30, 188-195.	3.8	21
40	Densification behaviour and microstructural evolution of Ti-48Al consolidated by spark plasma sintering. <i>Journal of Materials Science</i> , 2017, 52, 613-627.	3.7	21
41	Textured and toughened high-entropy (Ti0.2Zr0.2Hf0.2Nb0.2Ta0.2)C-SiCw ceramics. <i>Journal of Materials Science and Technology</i> , 2021, 94, 99-103.	10.7	21
42	Titanium aluminide (Ti-48Al) powder synthesis, size refinement and sintering. <i>Advanced Powder Technology</i> , 2017, 28, 314-323.	4.1	20
43	A comparison of the colloidal stabilization of aqueous titanium carbide suspensions using anionic and cationic dispersants. <i>International Journal of Refractory Metals and Hard Materials</i> , 2011, 29, 298-305.	3.8	19
44	The effects of microstructure on Vickers indentation damage in TiC-316L stainless steel cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016, 61, 151-161.	3.8	19
45	The influence of Ni3Al binder content on the aqueous corrosion response of TiC and Ti(C,N) cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2017, 64, 113-121.	3.8	18
46	Microstructural damage following reciprocating wear of TiC-stainless steel cermets. <i>Tribology International</i> , 2017, 105, 201-218.	5.9	18
47	Sintering Silicon Nitride Ceramics in Air. <i>Journal of the American Ceramic Society</i> , 2005, 88, 3538-3541.	3.8	17
48	High temperature mechanical and thermal stability of silicate matrix composites. <i>Composites Part B: Engineering</i> , 1995, 5, 1367-1378.	0.6	16
49	Large deformation mechanical behavior of gelatin-maltodextrin composite gels. <i>Journal of Applied Polymer Science</i> , 2001, 82, 124-135.	2.6	16
50	Thermal conductivity of tunable lamellar aluminum oxide/polymethyl methacrylate hybrid composites. <i>Journal of Materials Research</i> , 2012, 27, 1869-1876.	2.6	16
51	Continuous and symmetric graded Si3N4 ceramics designed by spark plasma sintering at 15 MPa. <i>Ceramics International</i> , 2019, 45, 16703-16706.	4.8	16
52	Microstructural characterization of a microwave-sintered silicon nitride based ceramic. <i>Journal of Materials Research</i> , 1995, 10, 1387-1396.	2.6	15
53	The effects of C:N ratio on the aqueous corrosion response of TiC and Ti(C,N) cermets with a Ni3Al-based binder. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016, 61, 162-172.	3.8	14
54	Influence of starch type on characteristics of porous 3Y-ZrO2 prepared from a direct consolidation casting method. <i>Materials Research</i> , 2011, 14, 39-45.	1.3	13

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55	Understanding the elastic and thermal response in TiC-based ceramic-metal composite systems: First-principles and mechanical studies. <i>Journal of Alloys and Compounds</i> , 2019, 789, 712-719.	5.5	13
56	Failure mode analysis of lithium ion batteries operated for low Earth orbit CubeSat applications. <i>Journal of Energy Storage</i> , 2020, 31, 101561.	8.1	13
57	Influence of starch content and sintering temperature on the microstructure of porous yttria-stabilized zirconia tapes. <i>Journal of Materials Science</i> , 2009, 44, 2581-2589.	3.7	11
58	A simple method for synthesis of acicular $\hat{I}^2$ -Si <sub>3</sub> N <sub>4</sub> seed crystals. <i>Ceramics International</i> , 2009, 35, 1357-1362.	4.8	11
59	The effects of graphene nano-platelet additions on the sliding wear of TiC-Ni <sub>3</sub> Al cermets. <i>Tribology International</i> , 2019, 130, 119-132.	5.9	11
60	Reaction mechanisms of nano-sized AlN powders synthesized from dicyandiamide and its optical property. <i>Materials Chemistry and Physics</i> , 2020, 253, 123376.	4.0	11
61	Effects of the joining process on the microstructure and properties of liquid-phase-sintered SiC-SiC joints formed with Ti foil. <i>Journal of the European Ceramic Society</i> , 2021, 41, 225-232.	5.7	11
62	Fabrication and properties of pressure-sintered reaction-bonded Si <sub>3</sub> N <sub>4</sub> ceramics with addition of Eu <sub>2</sub> O <sub>3</sub> •MgO•Y <sub>2</sub> O <sub>3</sub> . <i>Ceramics International</i> , 2021, 47, 935-942.	4.8	11
63	Improved toughness of spark-plasma-sintered Si <sub>3</sub> N <sub>4</sub> ceramics by adding HfB <sub>2</sub> . <i>Ceramics International</i> , 2021, 47, 8717-8721.	4.8	11
64	Reciprocating wear response of Ti(C,N)•Ni <sub>3</sub> Al cermets. <i>Canadian Metallurgical Quarterly</i> , 2013, 52, 69-80.	1.2	10
65	The effects of Mo <sub>2</sub> C additions on the sintering response of TiC 0.3 N 0.7 •Ni <sub>3</sub> Al cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2016, 61, 98-106.	3.8	10
66	Mechanical alloying assisted spark plasma sintering of Tungsten diboride ceramics. <i>Materials Chemistry and Physics</i> , 2019, 237, 121848.	4.0	10
67	Geometry and surface characteristics of H13 hot-work tool steel manufactured using laser-directed energy deposition. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 116, 699-718.	3.0	10
68	Title is missing!. <i>Journal of Materials Science Letters</i> , 2001, 20, 1553-1557.	0.5	9
69	Aqueous Colloidal Characterization and Forming of Multimodal Barium Titanate Powders. <i>Journal of the American Ceramic Society</i> , 2009, 92, 2537-2543.	3.8	9
70	Agar-Based Aqueous Gel Casting of Barium Titanate Ceramics. <i>International Journal of Applied Ceramic Technology</i> , 2011, 8, 597-609.	2.1	9
71	Aqueous corrosion behaviour of TiC-304L stainless steel cermets in a 3.5 wt% NaCl solution. <i>International Journal of Refractory Metals and Hard Materials</i> , 2017, 66, 234-243.	3.8	9
72	Comparison of sintering behavior and reinforcing mechanisms between 3Y-TZP/Al <sub>2</sub> O <sub>3</sub> (w) and 12Ce-TZP/Al <sub>2</sub> O <sub>3</sub> (w) composites: Combined effects of lanthanide stabilizer and Al <sub>2</sub> O <sub>3</sub> whisker length. <i>Journal of the European Ceramic Society</i> , 2021, 41, 706-718.	5.7	9

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73	Title is missing!. Journal of Materials Science Letters, 1998, 17, 1987-1990.	0.5	8
74	Fabrication and modelling of Si <sub>3</sub> N <sub>4</sub> ceramics with radial grain alignment generated through centripetal sinter-forging. Journal of Materials Science and Technology, 2022, 126, 1-14.	10.7	8
75	Correlating the mechanical strength of positive electrode material particles to their capacity retention. Cell Reports Physical Science, 2022, 3, 100714.	5.6	7
76	Joining Si <sub>3</sub> N <sub>4</sub> -Based Ceramics with Oxidation-Formed Surface Layers. Journal of the American Ceramic Society, 2000, 83, 2925-2928.	3.8	6
77	Hertzian indentation response of TiC-316L stainless steel cermets. International Journal of Refractory Metals and Hard Materials, 2018, 72, 172-182.	3.8	6
78	Cermets and Hardmetals. Metals, 2018, 8, 963.	2.3	6
79	The Aqueous Electrochemical Response of TiC-Stainless Steel Cermets. Metals, 2018, 8, 398.	2.3	6
80	Precipitation hardenable TiC-Steel cermets. Wear, 2021, 477, 203804.	3.1	6
81	Microstructural aspects of superplastic deformation of Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> laminate composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 219, 148-155.	5.6	5
82	Factors influencing the aqueous electrochemical response of TiC-Ni <sub>3</sub> Al cermets. Journal of Materials Research, 2017, 32, 3333-3343.	2.6	5
83	The influence of Mo 2 C additions on the microstructural development and sintering response of TiN-Ni <sub>3</sub> Al cermets. International Journal of Refractory Metals and Hard Materials, 2018, 71, 262-272.	3.8	5
84	Tape Cast Al <sub>2</sub> O <sub>3</sub> /ZrO <sub>2</sub> Composite Laminates. Ceramic Engineering and Science Proceedings, 0, , 873-880.	0.1	5
85	Microstructural Characterisation of Microwave Sintered Silicon Nitride Ceramics. Materials Research Society Symposia Proceedings, 1992, 287, 289.	0.1	4
86	Impact of Test Conditions While Screening Lithium-Ion Batteries for Capacity Degradation in Low Earth Orbit CubeSat Space Applications. Batteries, 2021, 7, 20.	4.5	4
87	Low-Temperature Oxidation Embrittlement of SiC (Nicalon?)/CAS Ceramic Matrix Composites. Journal of the American Ceramic Society, 2007, 90, 070922001254001-???.	3.8	3
88	Sintering Behavior and Microstructure Development of Porous Silicon Nitride Ceramics Prepared in an Air Atmosphere Furnace. International Journal of Applied Ceramic Technology, 2009, 6, 702-716.	2.1	3
89	Densification and Phase Transformation in Multi-Layered Graded Si <sub>3</sub> N <sub>4</sub> -TiN Components Produced by Field-Assisted Sintering. Materials, 2019, 12, 2900.	2.9	3
90	Biopolymer-Based Gel Casting of Ferroelectric Ceramics. Advanced Engineering Materials, 2014, 16, 684-698.	3.5	2

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91	The effects of Ni <sub>3</sub> Al binder content on the electrochemical response of melt-infiltration processed TiCâ€“Ni <sub>3</sub> Al cermets. Canadian Metallurgical Quarterly, 2016, 55, 138-146.	1.2	2
92	Microstructure and Oxidation Behaviour of Hiped Silicon Nitride. Ceramic Engineering and Science Proceedings, 0, , 991-999.	0.1	2
93	Effect of processing variables on production of powder metallurgical titanium. Canadian Metallurgical Quarterly, 2013, 52, 39-50.	1.2	1
94	The Sliding Wear Response of High-Performance Cermets. , 2018, , 1-42.		1
95	Microstructural Development of Porous <sup>2</sup> -Si <sub>3</sub> N <sub>4</sub> Ceramics Prepared by Pressureless-Sintering Compositions in the Si-Re-O-N Quaternary Systems (Re=La, Nd, Sm, Y, Yb). , 0, , 41-48.		1
96	Compositional Design of Porous <sup>2</sup> Si <sub>3</sub> N <sub>4</sub> Prepared by Pressureless-Sintering Compositions in the Si-Y-Mg-(Ca)-O-N System. , 0, , 49-56.		1
97	Porous <sup>2</sup> -Si <sub>3</sub> N <sub>4</sub> Ceramics Prepared with Fugitive Graphite Filler. Ceramic Engineering and Science Proceedings, 0, , 281-289.	0.1	1
98	Tape Casting Using Fine Ceramic Powders. Materials Research Society Symposia Proceedings, 1991, 249, 305.	0.1	0
99	Transient Viscous Phase Reaction Sintered (Tvprs) Silicon Oxynitride Ceramics.. Materials Research Society Symposia Proceedings, 1992, 287, 381.	0.1	0
100	The Sliding Wear Response of High-Performance Cermets. , 2019, , 2249-2290.		0
101	(Hf <sub>0.99</sub> Ta <sub>0.01</sub> )B <sub>2</sub> -based ceramics prepared by pressureless sintering with boron additive. Ceramics International, 2022, 48, 8605-8611.	4.8	0
102	Toughening and Strengthening Response in Ni <sub>3</sub> Al-Bonded Titanium Carbide Cermets. International Journal of Materials Research, 2022, 92, 995-999.	0.3	0