

# Penelope King

## List of Publications by Year in descending order

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93  
papers

8,506  
citations

53794

45  
h-index

46799

89  
g-index

97  
all docs

97  
docs citations

97  
times ranked

7038  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrashort pulsed laser ablation of granite for stone conservation. Optics and Laser Technology, 2022, 151, 108057.	4.6	12
2	3D microstructure controls on mineral carbonation. Journal of CO2 Utilization, 2021, 47, 101494.	6.8	3
3	Prograde and retrograde metasomatic reactions in mineralised magnesium-silicate skarn in the Cu-Au Ertsberg East Skarn System, Ertsberg, Papua Province, Indonesia. Ore Geology Reviews, 2020, 125, 103697.	2.7	6
4	Elemental Composition and Chemical Evolution of Geologic Materials in Gale Crater, Mars: APXS Results From Bradbury Landing to the Vera Rubin Ridge. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006536.	3.6	33
5	High resolution 3D mapping of grain kinematics during high temperature sequestration of SO <sub>2</sub> from flue gas by carbonate aggregates. Scientific Reports, 2020, 10, 2201.	3.3	8
6	The Methane Diurnal Variation and Microseepage Flux at Gale Crater, Mars as Constrained by the ExoMars Trace Gas Orbiter and Curiosity Observations. Geophysical Research Letters, 2019, 46, 9430-9438.	4.0	31
7	Deciphering Biosignatures in Planetary Contexts. Astrobiology, 2019, 19, 1075-1102.	3.0	66
8	Implications of Reactions Between SO <sub>2</sub> and Basaltic Glasses for the Mineralogy of Planetary Crusts. Journal of Geophysical Research E: Planets, 2019, 124, 2563-2582.	3.6	8
9	Vapor-deposited minerals contributed to the martian surface during magmatic degassing. Journal of Geophysical Research E: Planets, 2019, 124, 1592.	3.6	13
10	Sulfur on Mars from the Atmosphere to the Core. , 2019, , 119-183.		25
11	An experimental study of SO <sub>2</sub> reactions with silicate glasses and supercooled melts in the system anorthite-diopside-albite at high temperature. Contributions To Mineralogy and Petrology, 2019, 174, 1.	3.1	7
12	Analytical Techniques for Probing Small-Scale Layers that Preserve Information on Gas-Solid Interactions. Reviews in Mineralogy and Geochemistry, 2018, 84, 103-175.	4.8	13
13	SO <sub>2</sub> Gas Reactions with Silicate Glasses. Reviews in Mineralogy and Geochemistry, 2018, 84, 229-255.	4.8	28
14	Accurate predictions of microscale oxygen barometry in basaltic glasses using V K-edge X-ray absorption spectroscopy: A multivariate approach. American Mineralogist, 2018, 103, 1282-1297.	1.9	16
15	Unravelling the Consequences of SO <sub>2</sub> -Basalt Reactions for Geochemical Fractionation and Mineral Formation. Reviews in Mineralogy and Geochemistry, 2018, 84, 257-283.	4.8	18
16	Gas-Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. Reviews in Mineralogy and Geochemistry, 2018, 84, 1-56.	4.8	39
17	Using Infrared and Raman Spectroscopy to Analyze Gas-Solid Reactions. Reviews in Mineralogy and Geochemistry, 2018, 84, 177-228.	4.8	8
18	4. Analytical Techniques for Probing Small-Scale Layers that Preserve Information on Gas-Solid Interactions. , 2018, , 103-176.		0

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19	1. Gasâ€“Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. , 2018, , 1-56.		0
20	6. SO <sub>2</sub> Gas Reactions with Silicate Glasses. , 2018, , 229-256.		0
21	7. Unravelling the Consequences of SO <sub>2</sub> â€“Basalt Reactions for Geochemical Fractionation and Mineral Formation. , 2018, , 257-284.		0
22	Characterization of mineral coatings associated with a Pleistoceneâ€“Holocene rock art style: The Northern Running Figures of the East Alligator River region, western Arnhem Land, Australia. Data in Brief, 2017, 10, 537-543.	1.0	4
23	Volcanic gas composition, metal dispersion and deposition during explosive volcanic eruptions on the Moon. Geochimica Et Cosmochimica Acta, 2017, 206, 296-311.	3.9	57
24	Radiocarbon age constraints for a Pleistoceneâ€“Holocene transition rock art style: The Northern Running Figures of the East Alligator River region, western Arnhem Land, Australia. Journal of Archaeological Science: Reports, 2017, 11, 80-89.	0.5	27
25	High temperature gasâ€“solid reactions in calcâ€“silicate Cuâ€“Au skarn formation; Ertsberg, Papua Province, Indonesia. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	17
26	A global Mars dust composition refined by the Alphaâ€“Particle Xâ€“ray Spectrometer in Gale Crater. Geophysical Research Letters, 2016, 43, 67-75.	4.0	95
27	Refinement of the Comptonâ€“Rayleigh scatter ratio method for use on the Mars Science Laboratory alpha particle X-ray spectrometer: II â€“ Extraction of invisible element content. Nuclear Instruments & Methods in Physics Research B, 2016, 368, 129-137.	1.4	7
28	Effect of halite coatings on thermal infrared spectra. Journal of Geophysical Research: Solid Earth, 2015, 120, 2162-2178.	3.4	12
29	The origin and implications of clay minerals from Yellowknife Bay, Gale crater, Mars. American Mineralogist, 2015, 100, 824-836.	1.9	122
30	Porphyry copper deposit formation by sub-volcanic sulphur dioxide flux andâ€“chemisorption. Nature Geoscience, 2015, 8, 210-215.	12.9	83
31	Mid-infrared emission spectroscopy and visible/near-infrared reflectance spectroscopy of Fe-sulfate minerals. American Mineralogist, 2015, 100, 66-82.	1.9	32
32	Prediction of the thermodynamic functions of mixing of binary oxide melts in the PbOâ€“SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> â€“SiO <sub>2</sub> and CaOâ€“Al <sub>2</sub> O <sub>3</sub> systems by structure-based modification of the quasi-chemical model. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2015, 49, 19-34.	1.6	3
33	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the <i>Curiosity</i> rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250.	7.1	172
34	Gale crater and impact processes â€“ Curiosityâ€™s first 364 Sols on Mars. Icarus, 2015, 249, 108-128.	2.5	37
35	Trace element geochemistry (Li, Ba, Sr, and Rb) using <i>Curiosity</i> 's ChemCam: Early results for Gale crater from Bradbury Landing Site to Rocknest. Journal of Geophysical Research E: Planets, 2014, 119, 255-285.	3.6	86
36	The Mars Science Laboratory APXS calibration target: Comparison of Martian measurements with the terrestrial calibration. Nuclear Instruments & Methods in Physics Research B, 2014, 323, 49-58.	1.4	26

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37	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1245267.	12.6	323
38	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1242777.	12.6	687
39	Mars's™ Surface Radiation Environment Measured with the Mars Science Laboratory's™ Curiosity Rover. <i>Science</i> , 2014, 343, 1244797.	12.6	475
40	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1244734.	12.6	246
41	Stevensite in the modern thrombolites of Lake Clifton, Western Australia: A missing link in microbialite mineralization?. <i>Geology</i> , 2014, 42, 575-578.	4.4	74
42	Geochemical diversity in first rocks examined by the Curiosity Rover in Gale Crater: Evidence for and significance of an alkali and volatile-rich igneous source. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 64-81.	3.6	113
43	MSL-APXS titanium observation tray measurements: Laboratory experiments and results for the Rocknest fines at the Curiosity field site in Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1046-1060.	3.6	13
44	Chemistry and texture of the rocks at Rocknest, Gale Crater: Evidence for sedimentary origin and diagenetic alteration. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 2109-2131.	3.6	48
45	Volatile-rich silicate melts from Oldoinyo Lengai volcano (Tanzania): Implications for carbonatite genesis and eruptive behavior. <i>Earth and Planetary Science Letters</i> , 2013, 361, 379-390.	4.4	53
46	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. <i>Science</i> , 2013, 341, 263-266.	12.6	327
47	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. <i>Science</i> , 2013, 341, 1238937.	12.6	367
48	Refinement of the Compton-Rayleigh scatter ratio method for use on the Mars Science Laboratory alpha particle X-ray spectrometer. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2013, 302, 24-31.	1.4	17
49	A micro-reflectance IR spectroscopy method for analyzing volatile species in basaltic, andesitic, phonolitic, and rhyolitic glasses. <i>American Mineralogist</i> , 2013, 98, 1162-1171.	1.9	20
50	Martian Fluvial Conglomerates at Gale Crater. <i>Science</i> , 2013, 340, 1068-1072.	12.6	326
51	Development of a new laboratory technique for high-temperature thermal emission spectroscopy of silicate melts. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 1968-1983.	3.4	22
52	The Petrochemistry of Jake_M: A Martian Mugearite. <i>Science</i> , 2013, 341, 1239463.	12.6	134
53	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. <i>Science</i> , 2013, 341, 1238670.	12.6	215
54	Microbeam X-ray analysis of Ce <sup>3+</sup> /Ce <sup>4+</sup> in Ti-rich minerals: A case study with titanite (sphene) with implications for multivalent trace element substitution in minerals. <i>American Mineralogist</i> , 2013, 98, 110-119.	1.9	23

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55	Low Upper Limit to Methane Abundance on Mars. <i>Science</i> , 2013, 342, 355-357.	12.6	103
56	Sulfur degassing at Erta Ale (Ethiopia) and Masaya (Nicaragua) volcanoes: Implications for degassing processes and oxygen fugacities of basaltic systems. <i>Geochemistry, Geophysics, Geosystems</i> , 2013, 14, 4076-4108.	2.5	100
57	Characteristics of pebble- and cobble-sized clasts along the Curiosity rover traverse from Bradbury Landing to Rocknest. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 2361-2380.	3.6	44
58	Calibration of the Mars Science Laboratory Alpha Particle X-ray Spectrometer. <i>Space Science Reviews</i> , 2012, 170, 319-340.	8.1	105
59	High surface porosity as the origin of emissivity features in asteroid spectra. <i>Icarus</i> , 2012, 221, 1162-1172.	2.5	73
60	Planning for Mars Returned Sample Science: Final Report of the MSR End-to-End International Science Analysis Group (E2E-iSAG). <i>Astrobiology</i> , 2012, 12, 175-230.	3.0	58
61	Methods to analyze metastable and microparticulate hydrated and hydrous iron sulfate minerals. <i>American Mineralogist</i> , 2011, 96, 1856-1869.	1.9	20
62	Asteroid (21) Lutetia as a remnant of Earth's precursor planetesimals. <i>Icarus</i> , 2011, 216, 650-659.	2.5	45
63	Sulfur on Mars. <i>Elements</i> , 2010, 6, 107-112.	0.5	148
64	Characterization of halophiles in natural MgSO <sub>4</sub> salts and laboratory enrichment samples: Astrobiological implications for Mars. <i>Planetary and Space Science</i> , 2010, 58, 599-615.	1.7	34
65	Mineralogical and spectroscopic investigation of the Tagish Lake carbonaceous chondrite by X-ray diffraction and infrared reflectance spectroscopy. <i>Meteoritics and Planetary Science</i> , 2010, 45, 675-698.	1.6	38
66	Spectral analysis of synthetic quartzofeldspathic glasses using laboratory thermal infrared spectroscopy. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	12
67	Mineralogical and spectroscopic investigation of enstatite chondrites by X-ray diffraction and infrared reflectance spectroscopy. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	20
68	Non-basaltic asteroidal magmatism during the earliest stages of solar system evolution: A view from Antarctic achondrites Graves Nunatak 06128 and 06129. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 1172-1199.	3.9	59
69	The oxygen-isotope composition of chondrules and isolated forsterite and olivine grains from the Tagish Lake carbonaceous chondrite. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 2484-2499.	3.9	30
70	Effect of SiO <sub>2</sub> , total FeO, Fe <sup>3+</sup> /Fe <sup>2+</sup> , and alkali elements in basaltic glasses on mid-infrared spectra. <i>American Mineralogist</i> , 2009, 94, 1580-1590.	1.9	33
71	Rapid water exsolution, degassing, and bubble collapse observed experimentally in K-phonolite melts. <i>Journal of Volcanology and Geothermal Research</i> , 2008, 173, 178-184.	2.1	24
72	Fractionation vs. magma mixing in the Wangrah Suite A-type granites, Lachlan Fold Belt, Australia: Experimental constraints. <i>Lithos</i> , 2008, 102, 415-434.	1.4	46

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73	Dehydrogenation of kaersutitic amphibole under electron beam excitation recorded by changes in Fe <sup>3+</sup> /Fe: An EMP and SIMS study. <i>American Mineralogist</i> , 2008, 93, 1273-1281.	1.9	12
74	Mineralogy of the Paso Robles soils on Mars. <i>American Mineralogist</i> , 2008, 93, 728-739.	1.9	80
75	Thermal infrared reflectance and emission spectroscopy of quartzofeldspathic glasses. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	31
76	Stability of hydrated minerals on Mars. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	46
77	Resolution of bridging oxygen signals from O 1s spectra of silicate glasses using XPS: Implications for O and Si speciation. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 4297-4313.	3.9	95
78	Matrix effects in hydrogen isotope analysis of silicate glasses by SIMS. <i>Chemical Geology</i> , 2006, 235, 352-365.	3.3	61
79	A new approach to determine and quantify structural units in silicate glasses using micro-reflectance Fourier-Transform infrared spectroscopy. <i>American Mineralogist</i> , 2006, 91, 1783-1793.	1.9	62
80	SULFUR K-EDGE XANES SPECTROSCOPY: CHEMICAL STATE AND CONTENT OF SULFUR IN SILICATE GLASSES. <i>Canadian Mineralogist</i> , 2005, 43, 1605-1618.	1.0	58
81	Effects of H <sub>2</sub> O, pH, and oxidation state on the stability of Fe minerals on Mars. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	156
82	Accommodation of the carbonate ion in apatite: An FTIR and X-ray structure study of crystals synthesized at 2–4 GPa. <i>American Mineralogist</i> , 2004, 89, 1422-1432.	1.9	164
83	The composition and evolution of primordial solutions on Mars, with application to other planetary bodies. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 4993-5008.	3.9	65
84	Fractionation of metaluminous A-type granites: an experimental study of the Wangrah Suite, Lachlan Fold Belt, Australia. <i>Precambrian Research</i> , 2003, 124, 327-341.	2.7	95
85	Correlations of octahedral cations with OH <sup>+</sup> , O <sup>2+</sup> , Cl <sup>+</sup> , and F <sup>+</sup> in biotite from volcanic rocks and xenoliths. <i>American Mineralogist</i> , 2002, 87, 142-153.	1.9	51
86	Analytical techniques for volatiles: A case study using intermediate (andesitic) glasses. <i>American Mineralogist</i> , 2002, 87, 1077-1089.	1.9	83
87	CO <sub>2</sub> solubility and speciation in intermediate (andesitic) melts: the role of H <sub>2</sub> O and composition. <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 1627-1640.	3.9	88
88	SIMS analysis of volatiles in silicate glasses. <i>Chemical Geology</i> , 2002, 183, 99-114.	3.3	330
89	Are A-type granites the high-temperature felsic granites? Evidence from fractionated granites of the Wangrah Suite. <i>Australian Journal of Earth Sciences</i> , 2001, 48, 501-514.	1.0	324
90	Partitioning of Fe <sup>3+</sup> /Fe <sup>total</sup> between amphibole and basaltic melt as a function of oxygen fugacity. <i>Earth and Planetary Science Letters</i> , 2000, 178, 97-112.	4.4	54

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91	Oxy-substitution and dehydrogenation in mantle-derived amphibole megacrysts. <i>Geochimica Et Cosmochimica Acta</i> , 1999, 63, 3635-3651.	3.9	55
92	Characterization and Origin of Aluminous A-type Granites from the Lachlan Fold Belt, Southeastern Australia. <i>Journal of Petrology</i> , 1997, 38, 371-391.	2.8	981
93	FTIR micro-reflectance measurements of the CO <sub>3</sub> <sup>2-</sup> ion content in basanite and leucitite glasses. <i>Contributions To Mineralogy and Petrology</i> , 1996, 125, 311-318.	3.1	22