Gary Ray Byerly

List of Publications by Year
in descending order

79 papers	4,356 citations	145106 33 h-index	124990 64 g-index
81 all docs	81 docs citations	81 times ranked	2049 citing authors

#	Article	IF	Citations
1	Destabilization of Longâ€Lived Hadean Protocrust and the Onset of Pervasive Hydrous Melting at 3.8ÂGa. AGU Advances, 2022, 3, .	2.3	17
2	Heterogeneous Hadean crust with ambient mantle affinity recorded in detrital zircons of the Green Sandstone Bed, South Africa. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	19
3	Windblown Hadean zircons derived by erosion of impact-generated 3.3ÂGa uplifts, Barberton Greenstone Belt, South Africa. Precambrian Research, 2021, 356, 106111.	1.2	6
4	The non-glacial and non-cratonic origin of an early Archean felsic volcaniclastic unit, Barberton Greenstone Belt, South Africa. Precambrian Research, 2020, 341, 105647.	1.2	12
5	Deep hydrous mantle reservoir provides evidence for crustal recycling before 3.3 billion years ago. Nature, 2019, 571, 555-559.	13.7	64
6	Crustal fracturing, unconformities, and barite deposition, 3.26â€“3.23â€Ga, Barberton Greenstone Belt, South Africa. Precambrian Research, 2019, 327, 34-46.	1.2	12
7	Geologic Evolution of the Barberton Greenstone Beltâ€”A Unique Record of Crustal Development, Surface Processes, and Early Life 3.55â€“3.20 Ga. , 2019, , 569-613.		20
8	Hadean zircon from a 3.3 Ga sandstone, Barberton greenstone belt, South Africa. Geology, 2018, 46, 967-970.	2.0	26
9	The terrestrial record of Late Heavy Bombardment. New Astronomy Reviews, 2018, 81, 39-61.	5.2	27
10	Early Earth mantle heterogeneity revealed by light oxygen isotopes of Archaean komatiites. Nature Geoscience, 2017, 10, 871-875.	5.4	36
11	Detrital zircon geochronology of sandstones of the 3.6â€“3.2 Ga Barberton greenstone belt: No evidence for older continental crust. Geology, 2017, 45, 803-806.	2.0	32
12	Geologic record of partial ocean evaporation triggered by giant asteroid impacts, 3.29â€“3.23 billion years ago. Geology, 2015, 43, 535-538.	2.0	22
13	High resolution tephra and U/Pb chronology of the 3.33â€“3.26Ga Mendon Formation, Barberton Greenstone Belt, South Africa. Precambrian Research, 2015, 261, 54-74.	1.2	31
14	Onverwacht Group. , 2015, , 1770-1775.		0
15	Insights into early Earth from the Ptâ€“Reâ€“Os isotope and highly siderophile element abundance systematics of Barberton komatiites. Geochimica Et Cosmochimica Acta, 2014, 125, 394-413.	1.6	77
16	Paleoarchean ocean crust and mantle excavated by meteor impact: Insight into early crustal processes and tectonics. Geology, 2014, 42, 635-638.	2.0	7
17	Recently discovered 3.42-3.23 Ga impact layers, Barberton Belt, South Africa: 3.8 Ga detrital zircons, Archean impact history, and tectonic implications. Geology, 2014, 42, 747-750.	2.0	66
18	Onverwacht Group. , 2014, , 1-6.		0

#	Article	IF	Citations
19	Timing of deposition and deformation of the Moodies Group (Barberton Greenstone Belt, South) Tj ETQq1 1 0.784314 rgBT /Overlock	1.2	87
20	Insights into early Earth from Barberton komatiites: Evidence from lithophile isotope and trace element systematics. Geochimica Et Cosmochimica Acta, 2013, 108, 63-90.	1.6	110
21	A New Model for Barberton Komatiites: Deep Critical Melting with High Melt Retention. Journal of Petrology, 2012, 53, 2191-2229.	1.1	117
22	Mineralogy and diagenesis of 3.24Ga meteorite impact spherules. Precambrian Research, 2012, 196-197, 128-148.	1.2	22
23	Geochemistry and petrology of komatiites of the Pioneer Ultramafic Complex of the 3.3 Ga Weltevreden Formation, Barberton greenstone belt, South Africa. Precambrian Research, 2012, 212-213, 1-12.	1.2	30
24	Highly siderophile element systematics of the 3.3Ga Weltevreden komatiites, South Africa: Implications for early Earth history. Earth and Planetary Science Letters, 2011, 311, 253-263.	1.8	51
25	Fragmentation and dispersal of komatiitic pyroclasts in the 3.5-3.2 Ga Onverwacht Group, Barberton greenstone belt, South Africa. Bulletin of the Geological Society of America, 2011, 123, 1112-1126.	1.6	16
26	The Petrogenesis of Volcaniclastic Komatiites in the Barberton Greenstone Belt, South Africa: a Textural and Geochemical Study. Journal of Petrology, 2010, 51, 947-972.	1.1	38
27	Evidence for a low-O2 Archean atmosphere from nickel-rich chrome spinels in 3.24Ga impact spherules, Barberton greenstone belt, South Africa. Earth and Planetary Science Letters, 2010, 296, 319-328.	1.8	23
28	Abundant pyroclastic komatiitic volcanism in the 3.5â€“3.2 Ga Barberton greenstone belt, South Africa. Geology, 2008, 36, 779.	2.0	23
29	Ironstone bodies of the Barberton greenstone belt, South Africa: Products of a Cenozoic hydrological system, not Archean hydrothermal vents!. Bulletin of the Geological Society of America, 2007, 119, 65-87.	1.6	19
30	Chapter 5.3 An Overview of the Geology of the Barberton Greenstone Belt and Vicinity: Implications for Early Crustal Development. Neoproterozoic-Cambrian Tectonics, Global Change and Evolution: A Focus on South Western Gondwana, 2007, 15, 481-526.	0.2	79
31	Stable isotope and Rare Earth Element evidence for recent ironstone pods within the Archean Barberton greenstone belt, South Africa. Geochimica Et Cosmochimica Acta, 2006, 70, 1457-1470.	1.6	24
32	Compositional grading in an Â3.24 Ga impact-produced spherule bed, Barberton greenstone belt, South Africa: A key to impact plume evolution. South African Journal of Geology, 2006, 109, 233-244.	0.6	19
33	Iron and Manganese Minerals from South African Ironstone Deposits. Physica Scripta, 2005, , 918.	1.2	2
34	Three-Dimensional Chemical Analysis with Synchrotron Tomography at Multiple X-ray Energies:Â Brominated Aromatic Flame Retardant and Antimony Oxide in Polystyrene. Chemistry of Materials, 2004, 16, 4032-4042.	3.2	23
35	Ironstone pods in the Archean Barberton greenstone belt, South Africa: Earth's oldest seafloor hydrothermal vents reinterpreted as Quaternary subaerial springs: Comment and Reply. Geology, 2004, 32, e69-e69.	2.0	2
36	Spherule Beds 3.47â€“3.24 Billion Years Old in the Barberton Greenstone Belt, South Africa: A Record of Large Meteorite Impacts and Their Influence on Early Crustal and Biological Evolution. Astrobiology, 2003, 3, 7-48.	1.5	175

#	Article	IF	Citations
37	Ironstone pods in the Archean Barberton greenstone belt, South Africa: Earth's oldest seafloor hydrothermal vents reinterpreted as Quaternary subaerial springs. Geology, 2003, 31, 909.	2.0	39
38	Early Archean spherule beds: Chromium isotopes confirm origin through multiple impacts of projectiles of carbonaceous chondrite type: Comment and Reply. Geology, 2003, 31, e37-e37.	2.0	0
39	Early Archean spherule beds: Chromium isotopes confirm origin through multiple impacts of projectiles of carbonaceous chondrite type. Geology, 2003, 31, 283.	2.0	127
40	An Archean Impact Layer from the Pilbara and Kaapvaal Cratons. Science, 2002, 297, 1325-1327.	6.0	148
41	Revisiting an Archean Impact Layer. Science, 2002, 298, 750-751.	6.0	2
42	The oldest impact deposits on earth â€" First confirmation of an extraterrestrial component. , 2000, , 99-115.		55
43	Synchrotron X-ray Microtomography, Electron Probe Microanalysis, and NMR of Toluene Waste in Cement. Environmental Science & Technology, 2000, 34, 3269-3275.	4.6	13
44	Subaqueous to subaerial Archean ultramafic phreatomagmatic volcanism, Kromberg Formation, Barberton Greenstone Belt, South Africa. , 1999, , .		4
45	Stratigraphy of the west-central part of the Barberton Greenstone Belt, South Africa. , 1999, , .		55
46	Komatiites of the Mendon Formation: Late-stage ultramafic volcanism in the Barberton Greenstone Belt. , 1999, , .		24
47	Structural divisions and development of the west-central part of the Barberton Greenstone Belt. , 1999, , .		20
48	IIb trioctahedral chlorite from the Barberton greenstone belt: crystal structure and rock composition constraints with implications to geothermometry. Contributions To Mineralogy and Petrology, 1997, 126, 275-291.	1.2	148
49	The oldest part of the Barberton granitoid-greenstone terrain, South Africa: evidence for crust formation between 3.5 and 3.7 Ga. Precambrian Research, 1996, 78, 105-124.	1.2	194
50	Prolonged magmatism and time constraints for sediment deposition in the early Archean Barberton greenstone belt: evidence from the Upper Onverwacht and Fig Tree groups. Precambrian Research, 1996, 78, 125-138.	1.2	212
51	The influence of alteration on the trace-element and Nd isotopic compositions of komatiites. Chemical Geology, 1995, 126, 43-64.	1.4	190
52	Byâ€Product of Sulfur Recovery from Phosphogypsum as Concrete Aggregate. Journal of Materials in Civil Engineering, 1994, 6, 439-452.	1.3	1
53	Barite chimneys on the Gulf of Mexico slope: Initial report on their petrography and geochemistry. Geo-Marine Letters, 1994, 14, 81-87.	0.5	56
54	Spinel from Archean impact spherules. Geochimica Et Cosmochimica Acta, 1994, 58, 3469-3486.	1.6	103

#	Article	IF	Citations
55	Pseudomorphs of impact spherules from a Cretaceous-Tertiary boundary section at Shell Creek, Alabama. Earth and Planetary Science Letters, 1994, 124, 49-56.	1.8	14
56	Intracanyon flows in the Deccan province, India? Case history of the Rajahmundry Traps. Geology, 1994, 22, 605.	2.0	55
57	Chronology of early Archaean granite-greenstone evolution in the Barberton Mountain Land, South Africa, based on precise dating by single zircon evaporation. Earth and Planetary Science Letters, 1991, 103, 41-54.	1.8	304
58	Tourmaline mineralization in the Barberton greenstone belt, South Africa: early Archean metasomatism by evaporite-derived boron. Contributions To Mineralogy and Petrology, 1991, 107, 387-402.	1.2	57
59	Discrediting the late Eocene microspherule layer at Cynthia, Mississippi. Meteoritics, 1990, 25, 89-92.	1.5	7
60	Geological and Geochemical Record of 3400-Million-Year-Old Terrestrial Meteorite Impacts. Science, 1989, 245, 959-962.	6.0	153
61	The Greenwell Springs LL4 Chondrite: A New Fall from Louisiana, USA. Meteoritics, 1988, 23, 359-360.	1.5	1
62	Comments and Replies on â€œEarly Archean silicate spherules of probable impact origin, South Africa and Western Australiaâ€• Geology, 1987, 15, 179.	2.0	3
63	Comments and Replies on â€œEarly Archean silicate spherules of probable impact origin, South Africa and Western Australiaâ€• Geology, 1987, 15, 181.	2.0	2
64	Regional correlation of Grande Ronde Basalt flows, Columbia River Basalt Group, Washington, Oregon, and Idaho. Bulletin of the Geological Society of America, 1986, 97, 1300.	1.6	67
65	Early Archean silicate spherules of probable impact origin, South Africa and Western Australia. Geology, 1986, 14, 83.	2.0	125
66	Stromatolites from the 3,300â€“3,500-Myr Swaziland Supergroup, Barberton Mountain Land, South Africa. Nature, 1986, 319, 489-491.	13.7	183
67	Archaean flow-top alteration zones formed initially in a low-temperature sulphate-rich environment. Nature, 1986, 324, 245-248.	13.7	71
68	Stratigraphic and sedimentological evidence bearing on structural repetition in early Archean rocks of the Barberton greenstone belt, South Africa. Precambrian Research, 1985, 27, 165-186.	1.2	58
69	18O-Enrichment of silicic magmas caused by crystal fractionation at the Galapagos Spreading Center. Contributions To Mineralogy and Petrology, 1982, 79, 76-79.	1.2	85
70	Silicic differentiates of abyssal oceanic magmas: Evidence for late-magmatic vapor transport of potassium. Earth and Planetary Science Letters, 1980, 47, 423-430.	1.8	20
71	The nature of differentiation trends in some volcanic rocks from the Galapagos Spreading Center. Journal of Geophysical Research, 1980, 85, 3797-3810.	3.3	81
72	Origin of major element chemical trends in DSDP Leg 37 basalts, Mid-Atlantic Ridge. Journal of Volcanology and Geothermal Research, 1978, 3, 229-279.	0.8	27

#	Article	IF	Citations
73	Magnetic anomalies and basalt composition in the Juan de Fuca-Gorda Ridge area. Earth and Planetary Science Letters, 1976, 33, 185-207.	1.8	45
74	Rhyodacites, andesites, ferro-basalts and ocean tholeiites from the galapagos spreading center. Earth and Planetary Science Letters, 1976, 30, 215-221.	1.8	125
75	The great-circle pattern of large circular maria: product of an earth-moon encounter. The Moon, 1975, 12, 55-62.	0.4	8
76	Use of Fourier Shape Analysis in Zircon Petrogenetic Studies. Bulletin of the Geological Society of America, 1975, 86, 956.	1.6	6
77	Grain boundary processes and development of metamorphic plagioclase. Lithos, 1973, 6, 183-202.	0.6	8
78	Textural Variation in Petrogenetic Analyses. Bulletin of the Geological Society of America, 1972, 83, 665.	1.6	16
79	Igneous activity. , 0, , 91-108.		12