Mario Trieloff

List of Publications by Year
in descending order

119 papers	4,099 citations	126907 33 h-index	133252 59 g-index
120 all docs	120 docs citations	120 times ranked	3869 citing authors

#	ARTICLE	IF	CITATIONS
1	Macromolecular organic compounds from the depths of Enceladus. Nature, 2018, 558, 564-568.	27.8	282
2	Structure and thermal history of the H-chondrite parent asteroid revealed by thermochronometry. Nature, 2003, 422, 502-506.	27.8	267
3	The Nature of Pristine Noble Gases in Mantle Plumes. Science, 2000, 288, 1036-1038.	12.6	263
4	Lâ€chondrite asteroid breakup tied to Ordovician meteorite shower by multiple isochron ⁴⁰Arâ€³⁹ Ar dating. Meteoritics and Planetary Science, 2007, 42, 113-130.	1.6	192
5	Evidence for interstellar origin of seven dust particles collected by the Stardust spacecraft. Science, 2014, 345, 786-791.	12.6	152
6	Intercalibration of 40Arâ€“39Ar age standards NL-25, HB3gr hornblende, GA1550, SB-3, HD-B1 biotite and BMus/2 muscovite. Chemical Geology, 2007, 242, 218-231.	3.3	109
7	Flux and composition of interstellar dust at Saturn from Cassiniâ€™s Cosmic Dust Analyzer. Science, 2016, 352, 312-318.	12.6	97
8	Noble gas systematics of the RÃ©union mantle plume source and the origin of primordial noble gases in Earthâ€™s mantle. Earth and Planetary Science Letters, 2002, 200, 297-313.	4.4	95
9	Noble gas isotopes suggest deep mantle plume source of late Cenozoic mafic alkaline volcanism in Europe. Earth and Planetary Science Letters, 2005, 230, 143-162.	4.4	86
10	STARDUST FROM ASYMPTOTIC GIANT BRANCH STARS. Astrophysical Journal, 2009, 698, 1136-1154.	4.5	84
11	Isotope systematics of noble gases in the Earth's mantle: possible sources of primordial isotopes and implications for mantle structure. Physics of the Earth and Planetary Interiors, 2005, 148, 13-38.	1.9	81
12	PHOTOPHORETIC SEPARATION OF METALS AND SILICATES: THE FORMATION OF MERCURY-LIKE PLANETS AND METAL DEPLETION IN CHONDRITES. Astrophysical Journal, 2013, 769, 78.	4.5	78
13	Thermal conductivity measurements of porous dust aggregates: I. Technique, model and first results. Icarus, 2011, 214, 286-296.	2.5	76
14	The Isheyevo meteorite: Mineralogy, petrology, bulk chemistry, oxygen, nitrogen, carbon isotopic compositions, and ⁴⁰Arâ€³⁹Ar ages. Meteoritics and Planetary Science, 2008, 43, 915-940.	1.6	69
15	Thermal evolution and sintering of chondritic planetesimals. Astronomy and Astrophysics, 2012, 537, A45.	5.1	67
16	Thermal history modelling of the HÂchondrite parent body. Astronomy and Astrophysics, 2012, 545, A135.	5.1	61
17	Thermal evolution model for the H chondrite asteroid-instantaneous formation versus protracted accretion. Icarus, 2013, 226, 212-228.	2.5	61
18	Neon isotopes in mantle rocks from the Red Sea region reveal large-scale plumeâ€“lithosphere interaction. Earth and Planetary Science Letters, 2004, 219, 61-76.	4.4	60

#	Article	IF	Citations
19	40Ar/39Ar-ages of phlogopite in mantle xenoliths from South African kimberlites: Evidence for metasomatic mantle impregnation during the Kibaran orogenic cycle. Lithos, 2008, 106, 351-364.	1.4	59
20	The science case for an orbital mission to Uranus: Exploring the origins and evolution of ice giant planets. Planetary and Space Science, 2014, 104, 122-140.	1.7	56
21	A Rhaetian⁴⁰Ar/³⁹Ar age for the Rochechouart impact structure (France) and implications for the latest Triassic sedimentary record. Meteoritics and Planetary Science, 2010, 45, 1225-1242.	1.6	54
22	The formation of the solar system. Physica Scripta, 2015, 90, 068001.	2.5	51
23	New Uâ€“Pb and 40Ar/39Ar ages from the northern margin of the Barberton greenstone belt, South Africa: Implications for the formation of Mesoarchaean gold deposits. Precambrian Research, 2010, 179, 206-220.	2.7	49
24	Comment on the â€œJoint determination of 40K decay constants and 40Arâˆ—/40K for the Fish Canyon sanidine standard, and improved accuracy for 40Ar/39Ar geochronologyâ€•by Paul R. Renne et al. (2010). Geochimica Et Cosmochimica Acta, 2011, 75, 5094-5096.	3.9	49
25	Modeling the evolution of the parent body of acapulcoites and lodranites: A case study for partially differentiated asteroids. Icarus, 2018, 311, 146-169.	2.5	48
26	The age of the Kara impact structure, Russia. Meteoritics and Planetary Science, 1998, 33, 361-372.	1.6	45
27	The distribution of mantle and atmospheric argon in oceanic basalt glasses. Geochimica Et Cosmochimica Acta, 2003, 67, 1237-1253.	3.9	44
28	Establishing a 14.6 Â± 0.2 Ma age for the NÃ¶rdlinger Ries impact (Germany)-A prime example for concordant isotopic ages from various dating materials. Meteoritics and Planetary Science, 2010, 45, 662-674.	1.6	44
29	The L3â€“6 chondritic regolith breccia Northwest Africa (NWA) 869: (I) Petrology, chemistry, oxygen isotopes, and Arâ€Ar age determinations. Meteoritics and Planetary Science, 2011, 46, 652-680.	1.6	40
30	Origin of <scp>EL</scp>3 chondrites: Evidence for variable C/O ratios during their course of formationâ€"A state of the art scrutiny. Meteoritics and Planetary Science, 2017, 52, 781-806.	1.6	39
31	Refining the noble gas record of the RÃ©union mantle plume source: Implications on mantle geochemistry. Earth and Planetary Science Letters, 2005, 240, 573-588.	4.4	36
32	Spatial distribution of carbon dust in the early solar nebula and the carbon content of planetesimals. Astronomy and Astrophysics, 2017, 606, A16.	5.1	36
33	Helium loss from Martian meteorites mainly induced by shock metamorphism: Evidence from new data and a literature compilation. Meteoritics and Planetary Science, 2008, 43, 1841-1859.	1.6	35
34	Discriminating contamination from particle components in spectra of Cassini's dust detector CDA. Planetary and Space Science, 2009, 57, 1359-1374.	1.7	35
35	Compositional mapping of planetary moons by mass spectrometry of dust ejecta. Planetary and Space Science, 2011, 59, 1815-1825.	1.7	33
36	The collisional history of the HED parent body inferred from 40Arî—‚39Ar ages of eucrites. Planetary and Space Science, 1995, 43, 527-543.	1.7	31

#	Article	IF	Citations
37	⁴⁰Arâ€³⁹Ar and cosmicâ€ray exposure ages of nakhlitesâ€"Nakhla, Lafayette, Governador Valadaresâ€"and Chassigny. Meteoritics and Planetary Science, 2011, 46, 1397-1417.	1.6	31
38	The production of platinum-coated silicate nanoparticle aggregates for use in hypervelocity impact experiments. Planetary and Space Science, 2009, 57, 2081-2086.	1.7	30
39	Coeval ages of Australasian, Central American and Western Canadian tektites reveal multiple impacts 790 ka ago. Geochimica Et Cosmochimica Acta, 2016, 178, 307-319.	3.9	30
40	Final reports of the Stardust Interstellar Preliminary Examination. Meteoritics and Planetary Science, 2014, 49, 1720-1733.	1.6	29
41	New 40Ar/39Ar dating of the Clearwater Lake impact structures (QuÃ©bec, Canada) â€" Not the binary asteroid impact it seems?. Geochimica Et Cosmochimica Acta, 2015, 148, 304-324.	3.9	29
42	The old, unique C1 chondrite Flensburg â€" Insight into the first processes of aqueous alteration, brecciation, and the diversity of water-bearing parent bodies and lithologies. Geochimica Et Cosmochimica Acta, 2021, 293, 142-186.	3.9	28
43	Heterogeneous mantle argon isotope composition in the subcontinental lithospheric mantle beneath the Red Sea region. Chemical Geology, 2007, 240, 36-53.	3.3	27
44	The Castalia mission to Main Belt Comet 133P/Elst-Pizarro. Advances in Space Research, 2018, 62, 1947-1976.	2.6	27
45	Comment on â€œ40Ar/39Ar age of plagioclase from Acapulco meteorite and the problem of systematic errors in cosmochronologyâ€•by Paul R. Renne. Earth and Planetary Science Letters, 2001, 190, 267-269.	4.4	26
46	Argon isotope fractionation induced by stepwise heating. Geochimica Et Cosmochimica Acta, 2005, 69, 1253-1264.	3.9	26
47	Noble gas compositions of the lithospheric mantle below the Chyulu Hills volcanic field, Kenya. Earth and Planetary Science Letters, 2007, 261, 635-648.	4.4	25
48	Noble gases, their carrier phases, and argon chronology of upper mantle rocks from Zabargad Island, Red Sea. Geochimica Et Cosmochimica Acta, 1997, 61, 5065-5088.	3.9	24
49	Stardust Interstellar Preliminary Examination X: Impact speeds and directions of interstellar grains on the Stardust dust collector. Meteoritics and Planetary Science, 2014, 49, 1680-1697.	1.6	24
50	⁴⁰Ar/³⁹Ar dating and cosmicâ€ray exposure time of desert meteorites: Dhofar 300 and Dhofar 007 eucrites and anomalous achondrite NWA 011. Meteoritics and Planetary Science, 2005, 40, 1433-1454.	1.6	23
51	The cryptotephra record of the Marine Isotope Stage 12 to 10 interval (460â€"335 ka) at Tenaghi Philippon, Greece: Exploring chronological markers for the Middle Pleistocene of the Mediterranean region. Quaternary Science Reviews, 2018, 200, 313-333.	3.0	23
52	Calibration of relative sensitivity factors for impact ionization detectors with high-velocity silicate microparticles. Icarus, 2014, 241, 336-345.	2.5	22
53	Thermal evolution and sintering of chondritic planetesimals. Astronomy and Astrophysics, 2016, 589, A41.	5.1	22
54	Annama H chondriteâ€"Mineralogy, physical properties, cosmic ray exposure, and parent body history. Meteoritics and Planetary Science, 2017, 52, 1525-1541.	1.6	22

#	Article	IF	Citations
55	Das Alter des Meteoritenkraters NÃ¶rdlinger Ries â€“ eine Ãœbersicht und kurze Diskussion der neueren Datierungen des. Zeitschrift Der Deutschen Gesellschaft Fur Geowissenschaften, 2013, 164, 433-445.	0.4	21
56	Impact ionisation mass spectrometry of polypyrrole-coated pyrrhotite microparticles. Planetary and Space Science, 2014, 97, 9-22.	1.7	21
57	Thermal evolution and sintering of chondritic planetesimals. Astronomy and Astrophysics, 2015, 576, A60.	5.1	21
58	Linking shock textures revealed by BSE, CL, and EBSD with Uâ€Pb data (LAâ€ICPâ€MS and SIMS) from zircon from the Araguainha impact structure, Brazil. Meteoritics and Planetary Science, 2019, 54, 2286-2311.	1.6	21
59	Stardust Interstellar Preliminary Examination <scp>IX</scp>: Highâ€speed interstellar dust analog capture in Stardust flightâ€spare aerogel. Meteoritics and Planetary Science, 2014, 49, 1666-1679.	1.6	19
60	The Cretaceousâ€“Palaeogene boundary at Gorgonilla Island, Colombia, South America. Terra Nova, 2016, 28, 83-90.	2.1	19
61	Thermal history modelling of the L chondrite parent body. Astronomy and Astrophysics, 2019, 628, A77.	5.1	19
62	Infrared Spectroscopy of Calciumâ€Aluminiumâ€rich Inclusions: Analog Material for Protoplanetary Dust?. Astrophysical Journal, 2007, 656, 615-620.	4.5	18
63	Stardust Interstellar Preliminary Examination <scp>II</scp>: Curating the interstellar dust collector, picokeystones, and sources of impact tracks. Meteoritics and Planetary Science, 2014, 49, 1522-1547.	1.6	18
64	Stardust Interstellar Preliminary Examination <scp>IV</scp>: Scanning transmission Xâ€ray microscopy analyses of impact features in the Stardust Interstellar Dust Collector. Meteoritics and Planetary Science, 2014, 49, 1562-1593.	1.6	18
65	Noble gas and nitrogen isotopic components in Oceanic Island Basalts. Chemical Geology, 2009, 266, 29-37.	3.3	17
66	Shergottites Dhofar 019, SaU 005, Shergotty, and Zagami: ⁴⁰Arâ€³⁹Ar chronology and trapped Martian atmospheric and interior argon. Meteoritics and Planetary Science, 2009, 44, 293-321.	1.6	16
67	Stardust Interstellar Preliminary Examination <scp>XI</scp>: Identification and elemental analysis of impact craters on Al foils from the Stardust Interstellar Dust Collector. Meteoritics and Planetary Science, 2014, 49, 1698-1719.	1.6	16
68	Stardust Interstellar Preliminary Examination I: Identification of tracks in aerogel. Meteoritics and Planetary Science, 2014, 49, 1509-1521.	1.6	16
69	Impact ionisation mass spectrometry of platinum-coated olivine and magnesite-dominated cosmic dust analogues. Planetary and Space Science, 2018, 156, 96-110.	1.7	16
70	Eastern Mediterranean volcanism during marine isotope stages 9 to 7e (335â€“235â€¯ka): Insights based on cryptotephra layers at Tenaghi Philippon, Greece. Journal of Volcanology and Geothermal Research, 2019, 380, 31-47.	2.1	16
71	³⁹Arâ€⁴⁰Ar chronology of the enstatite chondrite parent bodies. Meteoritics and Planetary Science, 2014, 49, 358-372.	1.6	15
72	COSIMA-Rosetta calibration for in situ characterization of 67P/Churyumovâ€“Gerasimenko cometary inorganic compounds. Planetary and Space Science, 2015, 117, 35-44.	1.7	15

#	Article	IF	Citations
73	The Chelyabinsk meteorite: Thermal history and variable shock effects recorded by the ⁴⁰Arâ€³⁹Ar system. Meteoritics and Planetary Science, 2018, 53, 343-358.	1.6	14
74	Subduction of solar-type noble gases from extraterrestrial dust: constraints from high-pressure low-temperature metamorphic deep-sea sediments. Contributions To Mineralogy and Petrology, 2005, 149, 675-684.	3.1	13
75	Sample return of interstellar matter (SARIM). Experimental Astronomy, 2009, 23, 303-328.	3.7	13
76	Random projection for dimensionality reductionâ€"Applied to time-of-flight secondary ion mass spectrometry data. Analytica Chimica Acta, 2011, 705, 48-55.	5.4	13
77	Stardust Interstellar Preliminary Examination <scp>VII</scp>: Synchrotron Xâ€ray fluorescence analysis of six Stardust interstellar candidates measured with the Advanced Photon Source 2â€<scp>ID</scp>â€D microprobe. Meteoritics and Planetary Science, 2014, 49, 1626-1644.	1.6	13
78	Early cosmic ray irradiation of chondrules and prolonged accretion of primitive meteorites. Earth and Planetary Science Letters, 2015, 423, 13-23.	4.4	13
79	A new type of oxidized and pre-irradiated micrometeorite. Geochimica Et Cosmochimica Acta, 2018, 233, 135-158.	3.9	13
80	Uâ€Pb dating of zircons from an impact melt of the NÃ¶rdlinger Ries crater. Meteoritics and Planetary Science, 2020, 55, 312-325.	1.6	13
81	Stardust Interstellar Preliminary Examination VIII: Identification of crystalline material in two interstellar candidates. Meteoritics and Planetary Science, 2014, 49, 1645-1665.	1.6	12
82	Stardust Interstellar Preliminary Examination <scp>VI</scp>: Quantitative elemental analysis by synchrotron Xâ€ray fluorescence nanoimaging of eight impact features in aerogel. Meteoritics and Planetary Science, 2014, 49, 1612-1625.	1.6	12
83	Stardust Interstellar Preliminary Examination V: <scp>XRF</scp> analyses of interstellar dust candidates at <scp>ESRF ID</scp>13. Meteoritics and Planetary Science, 2014, 49, 1594-1611.	1.6	12
84	Stardust Interstellar Preliminary Examination <scp>III</scp>: Infrared spectroscopic analysis of interstellar dust candidates. Meteoritics and Planetary Science, 2014, 49, 1548-1561.	1.6	12
85	Vibrational spectroscopy of SiO on Si(111). Physica Status Solidi (B): Basic Research, 2010, 247, 2179-2184.	1.5	11
86	Noble gases in micrometeorites from the Transantarctic Mountains. Geochimica Et Cosmochimica Acta, 2018, 242, 266-297.	3.9	10
87	40Ar-39Ar step heating ages of North American tektites and of impact melt rock samples from the Chesapeake Bay impact structure. Geochimica Et Cosmochimica Acta, 2019, 255, 289-308.	3.9	10
88	Microporosity and parent body of the rubble-pile NEA (162173) Ryugu. Icarus, 2021, 358, 114166.	2.5	10
89	Hyperfine spectroscopy of the 1s5â˘’2p9 transition of A39r. Review of Scientific Instruments, 2009, 80, 113109.	1.3	9
90	Distribution of Mantle and Atmospheric Argon in Mantle Xenoliths from the Western Arabian Peninsula: Constraints on Timing and Composition of Metasomatizing Agents in the Lithospheric Mantle. Journal of Petrology, 2010, 51, 2547-2570.	2.8	9

#	Article	IF	Citations
91	A Middle-Late Triassic 40Ar/39Ar age for the PaasselkÃ impact structure (SE Finland). Meteoritics and Planetary Science, 2010, 45, 572-582.	1.6	9
92	Coordinated Microanalyses of Seven Particles of Probable Interstellar Origin from the Stardust Mission.. Microscopy and Microanalysis, 2014, 20, 1692-1693.	0.4	9
93	The two Suvasvesi impact structures, Finland: Argon isotopic evidence for a â€œfalseâ€•impact crater doublet. Meteoritics and Planetary Science, 2016, 51, 966-980.	1.6	9
94	Thermal and irradiation history of lunar meteorite Dhofar 280. Meteoritics and Planetary Science, 2016, 51, 2334-2346.	1.6	8
95	Sierra Gorda 009: A new member of the metalâ€rich G chondrites grouplet. Meteoritics and Planetary Science, 2020, 55, .	1.6	8
96	Trapped extraterrestrial argon in meteorites. Geochemistry International, 2017, 55, 971-976.	0.7	7
97	Light noble gas data in Guli massif carbonatites reveal the subcontinental lithospheric mantle as primary fluid source. Geochemistry International, 2017, 55, 457-464.	0.7	7
98	Land-sea correlations in the Eastern Mediterranean region over the past c. 800 kyr based on macro- and cryptotephras from ODP Site 964 (Ionian Basin). Quaternary Science Reviews, 2021, 255, 106811.	3.0	7
99	Evolution of the parent body of enstatite (EL) chondrites. Icarus, 2022, 373, 114762.	2.5	7
100	Morphology of craters generated by hypervelocity impacts of micronâ€sized polypyrroleâ€coated olivine particles. Meteoritics and Planetary Science, 2014, 49, 1375-1387.	1.6	6
101	A Carnian ⁴⁰Ar/³⁹Ar age for the PaasselkÃ impact structure (<scp>SE</scp>) Tj ETQq1 1 0.784314 rgBT /Ove	1.6	6
102	He, Ne, Ar stepwise crushing data on basalt glasses from different segments of Bouvet Triple Junction. Geochemistry International, 2017, 55, 977-987.	0.7	6
103	Thermal evolution and sintering of chondritic planetesimals. Astronomy and Astrophysics, 2018, 615, A147.	5.1	6
104	Acquisition of terrestrial neon during accretion â€" A mixture of solar wind and planetary components. Geochimica Et Cosmochimica Acta, 2019, 264, 141-164.	3.9	6
105	Iâ€"Xe ages of enstatite chondrites. Geochimica Et Cosmochimica Acta, 2016, 174, 196-210.	3.9	5
106	A cosmic dust detection suite for the deep space Gateway. Advances in Space Research, 2021, 68, 85-104.	2.6	5
107	Graphite in ureilites, enstatite chondrites, and unique clasts in ordinary chondrites â€" Insights from the carbon-isotope composition. Geochimica Et Cosmochimica Acta, 2021, 307, 86-104.	3.9	4
108	Evaluation of neutron sources for ISAGEâ€"in-situ-NAA for a future lunar mission. Applied Radiation and Isotopes, 2011, 69, 1625-1629.	1.5	3

#	Article	IF	Citations
109	SARIM PLUSâ€"sample return of comet 67P/CG and of interstellar matter. Experimental Astronomy, 2012, 33, 723-751.	3.7	3
110	The lunar Dhofar 1436 meteorite: ⁴⁰Arâ€³⁹Ar chronology and volatiles, revealed by stepwise combustion and crushing methods. Meteoritics and Planetary Science, 2021, 56, 455-481.	1.6	3
111	40Ar-39Ar dating of volcanic rocks from the Fernando de Noronha Archipelago. Geochemistry International, 2010, 48, 1035-1038.	0.7	2
112	Noble gas composition, cosmicâ€ray exposure age, ³⁹Arâ€⁴⁰Ar, and Iâ€Xe analyses of ungrouped achondrite <scp>NWA</scp> 7325. Meteoritics and Planetary Science, 2018, 53, 1150-1163.	1.6	2
113	Numerical modelling of mineral impact ionisation spectra. Planetary and Space Science, 2013, 89, 159-166.	1.7	1
114	53Mn-53Cr systematics of sphalerite in enstatite chondrites. Geochimica Et Cosmochimica Acta, 2021, 310, 79-94.	3.9	1
115	Entrapment history of aqueous fluids in Archean cherts from the Barberton Greenstone Belt, South Africa. Precambrian Research, 2022, 368, 106502.	2.7	1
116	Noble gases in Dome C micrometeorites - An attempt to disentangle asteroidal and cometary sources. Icarus, 2022, 376, 114884.	2.5	1
117	Elmar K. Jessberger (1943â€"2017). Meteoritics and Planetary Science, 2018, 53, 1537-1540.	1.6	0
118	The Sources and Evolution of Fluid Phases of Guli Massif Carbonatites (West Siberia): Summarizing of Noble Gases, N2, CO2, H2O Stepwise Crushing Data. Petrology, 2021, 29, 657-675.	0.9	0
119	Northwest Africa 6486: Record of large impact events and fluid alteration on the L chondrite asteroid. Meteoritics and Planetary Science, 2022, 57, 48-76.	1.6	0