

# Diego Perugini

## List of Publications by Year in descending order

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118  
papers

3,328  
citations

109321

35  
h-index

175258

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g-index

129  
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129  
docs citations

129  
times ranked

2367  
citing authors

#	ARTICLE	IF	CITATIONS
1	Visible and near-InfraRed (VNIR) reflectance of silicate glasses: Characterization of a featureless spectrum and implications for planetary geology. <i>Icarus</i> , 2022, 374, 114801.	2.5	10
2	Seismo-acoustic gliding: An experimental study. <i>Earth and Planetary Science Letters</i> , 2022, 579, 117344.	4.4	2
3	Rifting and recharge as triggers of the mixed basaltic-rhyolite Halarau ignimbrite eruption (Krafla, Iceland). <i>Journal of Petrology</i> , 2022, 63, 10784314.	3.1	3
4	Magmatic Processes at Euganean Hills (Veneto Volcanic Province, Italy): Clinopyroxene Investigation to Unravel Magmatic Interactions. <i>Geosciences (Switzerland)</i> , 2022, 12, 108.	2.2	2
5	Pre-Eruptive Conditions and Dynamics Recorded in Banded Pumices from the El Abrigo Caldera-Forming Eruption (Tenerife, Canary Islands). <i>Journal of Petrology</i> , 2022, 63, .	2.8	6
6	VNIR reflectance spectra of silicate-graphite mixtures: The effect of graphite content and particle size. <i>Icarus</i> , 2022, 378, 114950.	2.5	6
7	Rheological changes in melts and magmas induced by crystallization and strain rate. <i>Comptes Rendus - Geoscience</i> , 2022, 354, 227-248.	1.2	4
8	The lifecycle of volcanic ash: advances and ongoing challenges. <i>Bulletin of Volcanology</i> , 2022, 84, 1.	3.0	5
9	A Geochemical Clock to Measure Timescales of Volcanic Eruptions. <i>Advances in Volcanology</i> , 2021, , 149-160.	1.1	0
10	The Beginning: Mafic Magmas Invading Felsic Magma Chambers. <i>Advances in Volcanology</i> , 2021, , 77-86.	1.1	0
11	The Chaotic Mixing of Fluids. <i>Advances in Volcanology</i> , 2021, , 29-37.	1.1	1
12	Magma Mixing: The Trigger for Explosive Volcanic Eruptions. <i>Advances in Volcanology</i> , 2021, , 135-148.	1.1	1
13	What is Magma Mixing?. <i>Advances in Volcanology</i> , 2021, , 3-12.	1.1	0
14	The Fingerprint of Magma Mixing in Minerals. <i>Advances in Volcanology</i> , 2021, , 113-126.	1.1	1
15	Rheological evolution of eruptible Basaltic-Andesite Magmas under dynamic conditions: The importance of plagioclase growth rates. <i>Journal of Volcanology and Geothermal Research</i> , 2021, 420, 107411.	2.1	5
16	HUSH app: digital tools to explore the natural patrimony of urban areas. <i>IOP Conference Series: Earth and Environmental Science</i> , 2020, 509, 012034.	0.3	0
17	Machine Learning Thermo-Barometry: Application to Clinopyroxene-Bearing Magmas. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2020JB020130.	3.4	44
18	Viscosity behaviour of silicate melts during cooling under variable shear rates. <i>Journal of Non-Crystalline Solids</i> , 2020, 533, 119902.	3.1	12

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19	The San Gregorio Magno lacustrine basin (Campania, southern Italy): improved characterization of the tephrostratigraphic markers based on trace elements and isotopic data. <i>Journal of Quaternary Science</i> , 2019, 34, 393-404.	2.1	13
20	Retrieving magma composition from TIR spectra: implications for terrestrial planets investigations. <i>Scientific Reports</i> , 2019, 9, 15200.	3.3	13
21	Gas mobility in rheologically-layered volcanic conduits: The role of decompression rate and crystal content on the ascent dynamics of magmas. <i>Earth and Planetary Science Letters</i> , 2019, 524, 115732.	4.4	6
22	MgAl <sub>2</sub> O <sub>4</sub> spinels from Allende and NWA 763 carbonaceous chondrites: Structural refinement, cooling history, and trace element contents. <i>Meteoritics and Planetary Science</i> , 2019, 54, 3089-3100.	1.6	3
23	Interdiffusion of major elements at 1 atmosphere between natural shoshonitic and rhyolitic melts. <i>American Mineralogist</i> , 2019, 104, 1444-1454.	1.9	5
24	Pre-eruptive conditions and triggering mechanism of the ~16% <sup>16</sup> Santa Bárbara explosive eruption of Sete Cidades Volcano (São Miguel, Azores). <i>Contributions To Mineralogy and Petrology</i> , 2019, 174, 1.	3.1	12
25	A comparison between the sub-continental lithospheric mantle of Libya, Morocco and Cameroon: Evidences from structural data and trace element of mantle xenolith Cr-diopsides. <i>Journal of African Earth Sciences</i> , 2019, 158, 103521.	2.0	1
26	Viscosity of Pyroxenite Melt and Its Evolution During Cooling. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 1451-1469.	3.6	28
27	Degassing behaviour at basaltic volcanoes: New insights from experimental investigations of different conduit geometry and magma viscosity. <i>Earth-Science Reviews</i> , 2019, 192, 317-336.	9.1	30
28	Volcanic ash generation: Effects of componentry, particle size and conduit geometry on size-reduction processes. <i>Earth and Planetary Science Letters</i> , 2019, 514, 13-27.	4.4	6
29	The unexpected explosive sub-Plinian eruption of Calbuco volcano (22-23 April 2015; southern Chile): Triggering mechanism implications. <i>Journal of Volcanology and Geothermal Research</i> , 2019, 378, 35-50.	2.1	31
30	Biased Volcanic Hazard Assessment Due to Incomplete Eruption Records on Ocean Islands: An Example of Sete Cidades Volcano, Azores. <i>Frontiers in Earth Science</i> , 2019, 7, .	1.8	12
31	Cooling history and emplacement of a pyroxenitic lava as proxy for understanding Martian lava flows. <i>Scientific Reports</i> , 2019, 9, 17051.	3.3	8
32	Time evolution of transient volcanic plumes: Insights from fractal analysis. <i>Journal of Volcanology and Geothermal Research</i> , 2019, 371, 59-71.	2.1	10
33	Role of magma mixing in the pre-eruptive dynamics of the Aeolian Islands volcanoes (Southern) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.4	26
34	Timescales of water accumulation in magmas and implications for short warning times of explosive eruptions. <i>Nature Communications</i> , 2018, 9, 770.	12.8	38
35	Determination of changes in the concentration and distribution of elements within olive drupes (cv.) Tj ETQq1 1 0.784314 rgBT /Overlock 10 spectrometry. <i>Journal of the Science of Food and Agriculture</i> , 2018, 98, 4971-4977.	3.5	12
36	An experimental device for characterizing degassing processes and related elastic fingerprints: Analog volcano seismo-acoustic observations. <i>Review of Scientific Instruments</i> , 2018, 89, 055102.	1.3	7

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37	Tracking plumbing system dynamics at the Campi Flegrei caldera, Italy: High-resolution trace element mapping of the Astroni crystal cargo. <i>Lithos</i> , 2018, 318-319, 464-477.	1.4	23
38	AMFORM, a new mass-based model for the calculation of the unit formula of amphiboles from electron microprobe analyses. <i>American Mineralogist</i> , 2018, 103, 1112-1125.	1.9	41
39	Diffusive exchange of trace elements between alkaline melts: Implications for element fractionation and timescale estimations during magma mixing. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 233, 95-114.	3.9	15
40	Combining machine learning techniques, microanalyses and large geochemical datasets for tephrochronological studies in complex volcanic areas: New age constraints for the Pleistocene magmatism of central Italy. <i>Quaternary Geochronology</i> , 2017, 40, 33-44.	1.4	30
41	Restitic or not? Insights from trace element content and crystal structure of spinels in African mantle xenoliths. <i>Lithos</i> , 2017, 278-281, 464-476.	1.4	10
42	Water-enhanced interdiffusion of major elements between natural shoshonite and high-K rhyolite melts. <i>Chemical Geology</i> , 2017, 466, 86-101.	3.3	24
43	Titanite-bearing calc-silicate rocks constrain timing, duration and magnitude of metamorphic CO <sub>2</sub> degassing in the Himalayan belt. <i>Lithos</i> , 2017, 292-293, 364-378.	1.4	22
44	Syneruptive sequential fragmentation of pyroclasts from fractal modeling of grain size distributions of fall deposits: the Cretaio Tephra eruption (Ischia Island, Italy). <i>Journal of Volcanology and Geothermal Research</i> , 2017, 345, 161-171.	2.1	4
45	Enhancement of eruption explosivity by heterogeneous bubble nucleation triggered by magma mingling. <i>Scientific Reports</i> , 2017, 7, 16897.	3.3	18
46	Magma Mixing: History and Dynamics of an Eruption Trigger. <i>Advances in Volcanology</i> , 2017, , 123-137.	1.1	17
47	Experimental constraints on the rheology, eruption, and emplacement dynamics of analog lavas comparable to Mercury's northern volcanic plains. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 1522-1538.	3.6	31
48	Exponential decay of concentration variance during magma mixing: Robustness of a volcanic chronometer and implications for the homogenization of chemical heterogeneities in magmatic systems. <i>Lithos</i> , 2017, 286-287, 396-407.	1.4	22
49	Phosphorus zoning as a recorder of crystal growth kinetics: application to second-generation olivine in mantle xenoliths from the Cima Volcanic Field. <i>Contributions To Mineralogy and Petrology</i> , 2017, 172, 1.	3.1	9
50	High-resolution geochemistry of volcanic ash highlights complex magma dynamics during the Eyjafjallajökull 2010 eruption. <i>American Mineralogist</i> , 2017, 102, 1173-1186.	1.9	12
51	The Grizzly Lake complex (Yellowstone Volcano, USA): Mixing between basalt and rhyolite unraveled by microanalysis and X-ray microtomography. <i>Lithos</i> , 2016, 260, 457-474.	1.4	26
52	High spatial resolution trace element determination of geological samples by laser ablation quadrupole plasma mass spectrometry: implications for glass analysis in volcanic products. <i>Geosciences Journal</i> , 2016, 20, 851-863.	1.2	35
53	Solving petrological problems through machine learning: the study case of tectonic discrimination using geochemical and isotopic data. <i>Contributions To Mineralogy and Petrology</i> , 2016, 171, 1.	3.1	67
54	Combined Sr-Nd isotopic and geochemical fingerprinting as a tool for identifying tephra layers: Application to deep-sea cores from Eastern Mediterranean Sea. <i>Chemical Geology</i> , 2016, 443, 121-136.	3.3	21

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55	Effects of chaotic advection on the timescales of cooling and crystallization of magma bodies at mid crustal levels. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 425-441.	2.5	17
56	Eruption dynamics of the 22–23 April 2015 Calbuco Volcano (Southern Chile): Analyses of tephra fall deposits. <i>Journal of Volcanology and Geothermal Research</i> , 2016, 317, 15-29.	2.1	94
57	Unravelling the complex interaction between mantle and crustal magmas encoded in the lavas of San Vincenzo (Tuscany, Italy). Part II: Geochemical overview and modelling. <i>Lithos</i> , 2016, 244, 233-249.	1.4	6
58	Unravelling the complex interaction between mantle and crustal magmas encoded in the lavas of San Vincenzo (Tuscany, Italy). Part I: Petrography and Thermobarometry. <i>Lithos</i> , 2016, 244, 218-232.	1.4	12
59	High-temperature apparatus for chaotic mixing of natural silicate melts. <i>Review of Scientific Instruments</i> , 2015, 86, 105108.	1.3	17
60	Concentration variance decay during magma mixing: a volcanic chronometer. <i>Scientific Reports</i> , 2015, 5, 14225.	3.3	39
61	Magma mixing enhanced by bubble segregation. <i>Solid Earth</i> , 2015, 6, 1007-1023.	2.8	17
62	Fractal Analysis of Enclaves as a New Tool for Estimating Rheological Properties of Magmas During Mixing: The Case of Montaña Reventada (Tenerife, Canary Islands). <i>Pure and Applied Geophysics</i> , 2015, 172, 1803-1814.	1.9	8
63	Cooling of a Magmatic System Under Thermal Chaotic Mixing. <i>Pure and Applied Geophysics</i> , 2015, 172, 1835-1849.	1.9	3
64	Non-invasive assessment of the formation of tourmaline nodules by X-ray microtomography and computer modeling. <i>American Mineralogist</i> , 2015, 100, 459-465.	1.9	5
65	Fractal Dimension of Geologically Constrained Crater Populations of Mercury. <i>Pure and Applied Geophysics</i> , 2015, 172, 1999-2008.	1.9	1
66	Introduction to the Topical Volume "Fractals and Dynamic Systems in Geoscience". <i>Pure and Applied Geophysics</i> , 2015, 172, 1781-1785.	1.9	1
67	Experimental constraints on the origin of pahoehoe "cicirara" lavas at Mt. Etna Volcano (Sicily, Italy). <i>Bulletin of Volcanology</i> , 2015, 77, 1.	3.0	19
68	Quantifying magma mixing with the Shannon entropy: Application to simulations and experiments. <i>Lithos</i> , 2015, 236-237, 299-310.	1.4	13
69	Approximate chemical analysis of volcanic glasses using Raman spectroscopy. <i>Journal of Raman Spectroscopy</i> , 2015, 46, 1235-1244.	2.5	53
70	Dynamics and time evolution of a shallow plumbing system: The 1739 and 1888–90 eruptions, Vulcano Island, Italy. <i>Journal of Volcanology and Geothermal Research</i> , 2015, 306, 74-82.	2.1	24
71	Time evolution of chemical exchanges during mixing of rhyolitic and basaltic melts. <i>Contributions To Mineralogy and Petrology</i> , 2013, 166, 615-638.	3.1	39
72	Interactions between rhyolitic and basaltic melts unraveled by chaotic mixing experiments. <i>Chemical Geology</i> , 2013, 346, 199-212.	3.3	44

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73	Relaxation of concentration variance: A new tool to measure chemical element mobility during mixing of magmas. <i>Chemical Geology</i> , 2013, 335, 8-23.	3.3	26
74	Morphochemistry of patterns produced by mixing of rhyolitic and basaltic melts. <i>Journal of Volcanology and Geothermal Research</i> , 2013, 253, 87-96.	2.1	20
75	The space and time complexity of chaotic mixing of silicate melts: Implications for igneous petrology. <i>Lithos</i> , 2012, 155, 326-340.	1.4	37
76	The mixing of magmas in plutonic and volcanic environments: Analogies and differences. <i>Lithos</i> , 2012, 153, 261-277.	1.4	125
77	Extreme frictional processes in the volcanic conduit of Mount St. Helens (USA) during the 2004-2008 eruption. <i>Journal of Structural Geology</i> , 2012, 38, 61-76.	2.3	59
78	Fractal analysis of experimentally generated pyroclasts: A tool for volcanic hazard assessment. <i>Acta Geophysica</i> , 2012, 60, 682-698.	2.0	26
79	Application of fractal fragmentation theory to natural pyroclastic deposits: Insights into volcanic explosivity of the Valentano scoria cone (Italy). <i>Journal of Volcanology and Geothermal Research</i> , 2011, 202, 200-210.	2.1	23
80	Transition to chaos and implications for time-scales of magma hybridization during mixing processes in magma chambers. <i>Lithos</i> , 2011, 125, 211-220.	1.4	35
81	Strain-induced magma degassing: insights from simple-shear experiments on bubble bearing melts. <i>Bulletin of Volcanology</i> , 2011, 73, 1245-1257.	3.0	71
82	Enhancement of magma mixing efficiency by chaotic dynamics: an experimental study. <i>Contributions To Mineralogy and Petrology</i> , 2011, 161, 863-881.	3.1	91
83	Chaotic Mixing in the System Earth: Mixing Granitic and Basaltic Liquids. , 2010, , .		5
84	Time-scales of recent Phlegrean Fields eruptions inferred from the application of a "diffusive fractionation" model of trace elements. <i>Bulletin of Volcanology</i> , 2010, 72, 431-447.	3.0	50
85	A virtual voyage through 3D structures generated by chaotic mixing of magmas and numerical simulations: a new approach for understanding spatial and temporal complexity of magma dynamics. <i>Visual Geosciences</i> , 2008, 13, 1-24.	0.5	3
86	Micro-Analytical Zircon and Monazite U-Pb Isotope Dating by Laser Ablation-Inductively Coupled Plasma-Quadrupole Mass Spectrometry. <i>Geostandards and Geoanalytical Research</i> , 2008, 32, 103-120.	1.9	25
87	Particle size distributions of some soils from the Umbria Region (Italy): Fractal analysis and numerical modelling. <i>Geoderma</i> , 2008, 145, 185-195.	5.1	38
88	Trace element mobility during magma mixing: Preliminary experimental results. <i>Chemical Geology</i> , 2008, 256, 146-157.	3.3	75
89	Heterogeneities in magma chambers: Insights from the behavior of major and minor elements during mixing experiments with natural alkaline melts. <i>Chemical Geology</i> , 2008, 256, 131-145.	3.3	57
90	The "small-world" topology of rock fracture networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 377, 323-328.	2.6	40

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91	Application of a cellular automata model to the study of soil particle size distributions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2007, 383, 595-602.	2.6	13
92	The "small-world" nature of fracture/conduit networks: Possible implications for disequilibrium transport of magmas beneath mid-ocean ridges. <i>Journal of Volcanology and Geothermal Research</i> , 2007, 159, 355-365.	2.1	17
93	Insights into magma chamber processes from the analysis of size distribution of enclaves in lava flows: A case study from Vulcano Island (Southern Italy). <i>Journal of Volcanology and Geothermal Research</i> , 2007, 166, 193-203.	2.1	38
94	Interplay between geochemistry and magma dynamics during magma interaction: An example from the Sithonia Plutonic Complex (NE Greece). <i>Lithos</i> , 2007, 95, 243-266.	1.4	49
95	Graphite electrode lithium tetraborate fusion for trace element determination in bulk geological samples by laser ablation ICP-MS. <i>Mikrochimica Acta</i> , 2007, 158, 275-282.	5.0	40
96	Influence of landscape morphology and vegetation cover on the sampling of mixed plutonic bodies. <i>Mineralogy and Petrology</i> , 2007, 90, 1-17.	1.1	4
97	Tourmaline nodules from Capo Bianco aplite (Elba Island, Italy): an example of diffusion limited aggregation growth in a magmatic system. <i>Contributions To Mineralogy and Petrology</i> , 2007, 153, 493-508.	3.1	50
98	Diffusive fractionation of trace elements by chaotic mixing of magmas. <i>Earth and Planetary Science Letters</i> , 2006, 243, 669-680.	4.4	79
99	"Explosive energy" during volcanic eruptions from fractal analysis of pyroclasts. <i>Earth and Planetary Science Letters</i> , 2006, 248, 800-807.	4.4	82
100	Analysis of concentration patterns in volcanic rocks: Insights into dynamics of highly explosive volcanic eruptions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2006, 370, 741-746.	2.6	4
101	Time-scales of hybridisation of magmatic enclaves in regular and chaotic flow fields: petrologic and volcanologic implications. <i>Bulletin of Volcanology</i> , 2006, 68, 285-293.	3.0	39
102	PetroGraph: A new software to visualize, model, and present geochemical data in igneous petrology. <i>Geochemistry, Geophysics, Geosystems</i> , 2005, 6, n/a-n/a.	2.5	98
103	Strange attractors in plagioclase oscillatory zoning: petrological implications. <i>Contributions To Mineralogy and Petrology</i> , 2005, 149, 482-497.	3.1	53
104	Development of viscous fingering between mafic and felsic magmas: evidence from the Terra Nova Intrusive Complex (Antarctica). <i>Mineralogy and Petrology</i> , 2005, 83, 151-166.	1.1	20
105	Viscous fingering during replenishment of felsic magma chambers by continuous inputs of mafic magmas: Field evidence and fluid-mechanics experiments. <i>Geology</i> , 2005, 33, 5.	4.4	69
106	Analysis and numerical simulation of chaotic advection and chemical diffusion during magma mixing: petrological implications. <i>Lithos</i> , 2004, 78, 43-66.	1.4	43
107	Mantle-derived and crustal melts dichotomy in northern Greece: spatiotemporal and geodynamic implications. <i>Geological Journal</i> , 2004, 39, 63-80.	1.3	28
108	Kinematic significance of morphological structures generated by mixing of magmas: a case study from Salina Island (southern Italy). <i>Earth and Planetary Science Letters</i> , 2004, 222, 1051-1066.	4.4	75

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109	Determination of the degree of compositional disorder in magmatic enclaves using SEM X-ray element maps. <i>European Journal of Mineralogy</i> , 2004, 16, 431-442.	1.3	8
110	Magma mixing in the Sithonia Plutonic Complex, Greece: evidence from mafic microgranular enclaves. <i>Mineralogy and Petrology</i> , 2003, 78, 173-200.	1.1	162
111	Chaotic advection, fractals and diffusion during mixing of magmas: evidence from lava flows. <i>Journal of Volcanology and Geothermal Research</i> , 2003, 124, 255-279.	2.1	105
112	The Role of Chaotic Dynamics and Flow Fields in the Development of Disequilibrium Textures in Volcanic Rocks. <i>Journal of Petrology</i> , 2003, 44, 733-756.	2.8	43
113	Determination of travertine provenance from ancient buildings using self-organizing maps and fuzzy logic. <i>Applied Artificial Intelligence</i> , 2003, 17, 885-900.	3.2	5
114	MorphoUt 1.0: utilities for closed shape morphometry. <i>Computers and Geosciences</i> , 2002, 28, 73-79.	4.2	6
115	Morphometric analysis of magmatic enclaves: a tool for understanding magma vesiculation and ascent. <i>Lithos</i> , 2002, 61, 225-235.	1.4	20
116	Strange attractors in magmas: evidence from lava flows. <i>Lithos</i> , 2002, 65, 287-297.	1.4	32
117	Analysis and simulation of magma mixing processes in 3D. <i>Lithos</i> , 2002, 65, 313-330.	1.4	55
118	Chaotic dynamics and fractals in magmatic interaction processes: a different approach to the interpretation of mafic microgranular enclaves. <i>Earth and Planetary Science Letters</i> , 2000, 175, 93-103.	4.4	76