

# Ec Gaucher

## List of Publications by Year in descending order

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104  
papers

3,965  
citations

109321

35  
h-index

128289

60  
g-index

104  
all docs

104  
docs citations

104  
times ranked

2894  
citing authors

#	ARTICLE	IF	CITATIONS
1	Significance of H <sub>2</sub> and CO release during thermal treatment of natural phyllosilicate-rich rocks. <i>Chemical Geology</i> , 2022, 588, 120647.	3.3	1
2	Successive Modes of Carbonate Precipitation in Microbialites along the Hydrothermal Spring of La Salsa in Laguna Pastos Grandes (Bolivian Altiplano). <i>Geosciences (Switzerland)</i> , 2022, 12, 88.	2.2	2
3	Experimental study of chemical evolution and isotope fractionation of Cl and Br in pore water expelled during strong clay compaction. <i>Applied Geochemistry</i> , 2022, 140, 105274.	3.0	2
4	Toward the Sustainable Use of Groundwater Springs: A Case Study from Namibia. <i>Sustainability</i> , 2022, 14, 3995.	3.2	2
5	Natural gas of radiolytic origin: An overlooked component of shale gas. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2114720119.	7.1	9
6	Rift and salt-related multi-phase dolomitization: example from the northwestern Pyrenees. <i>Marine and Petroleum Geology</i> , 2021, 126, 104932.	3.3	21
7	Thermodynamics for clay minerals: Calculation tools and application to the case of illite/smectite interstratified minerals. <i>Applied Geochemistry</i> , 2021, 130, 104986.	3.0	16
8	Overpressure generation by smectite dehydration in sedimentary basins constrained by salinity dilution and stable isotopes. <i>Applied Geochemistry</i> , 2021, 131, 105035.	3.0	3
9	Epigenic vs. hypogenic speleogenesis governed by H <sub>2</sub> S/CO <sub>2</sub> hydrothermal input and Quaternary icefield dynamics (NE French Pyrenees). <i>Geomorphology</i> , 2021, 387, 107769.	2.6	7
10	Native H <sub>2</sub> Exploration in the Western Pyrenean Foothills. <i>Geochemistry, Geophysics, Geosystems</i> , 2021, 22, e2021GC009917.	2.5	25
11	The diagenetic history of the giant Lacq gas field, witness to the apto-albian rifting and the Pyrenean orogeny, revealed by fluid and basin modeling. <i>Marine and Petroleum Geology</i> , 2021, 133, 105250.	3.3	5
12	Mineralogical and geochemical study of serpentized peridotites from the North-Western Pyrenees: New insights on serpentization along magma-poor continental passive margins. <i>Lithos</i> , 2021, 406-407, 106521.	1.4	1
13	The North Pyrenean Frontal Thrust: structure, timing and late fluid circulation inferred from seismic and thermal-geochemical analyses of well data. <i>Bulletin - Soci�t� Geologique De France</i> , 2021, 192, 52.	2.2	3
14	Effects of smectite dehydration and illitisation on overpressures in sedimentary basins: A coupled chemical and thermo-hydro-mechanical modelling approach. <i>Marine and Petroleum Geology</i> , 2020, 111, 166-178.	3.3	19
15	Impact of geodynamics on fluid circulation and diagenesis of carbonate reservoirs in a foreland basin: Example of the Upper Lacq reservoir (Aquitaine basin, SW France). <i>Marine and Petroleum Geology</i> , 2020, 111, 676-694.	3.3	19
16	Prediction of the calcium carbonate budget in a sedimentary basin: A "source-to-sink" approach applied to Great Salt Lake, Utah, USA. <i>Basin Research</i> , 2020, 32, 1005-1034.	2.7	13
17	Variability of Carbonate Isotope Signatures in a Hydrothermally Influenced System: Insights from the Pastos Grandes Caldera (Bolivia). <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 989.	2.0	8
18	Synsedimentary to early diagenetic rejuvenation of barite-sulfides ore deposits: Example of the Triassic intrakarstic mineralization in the Lod�ve basin (France). <i>Marine and Petroleum Geology</i> , 2020, 119, 104464.	3.3	1

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19	The origin of continental carbonates in Andean salars: A multi-tracer geochemical approach in Laguna Pastos Grandes (Bolivia). <i>Geochimica Et Cosmochimica Acta</i> , 2020, 279, 220-237.	3.9	9
20	Early Diagenesis of Lacustrine Carbonates in Volcanic Settings: The Role of Magmatic CO <sub>2</sub> (Lake Dziani Dzaha, Mayotte, Indian Ocean). <i>ACS Earth and Space Chemistry</i> , 2020, 4, 363-378.	2.7	18
21	New Perspectives in the Industrial Exploration for Native Hydrogen. <i>Elements</i> , 2020, 16, 8-9.	0.5	34
22	Quaternary tectonic and climate changes at the origin of travertine and calcrete in the eastern Betics (Almer�a region, SE Spain). <i>Journal of the Geological Society</i> , 2020, 177, 939-954.	2.1	1
23	The lacustrine microbial carbonate factory of the successive Lake Bonneville and Great Salt Lake, Utah, USA. <i>Sedimentology</i> , 2019, 66, 165-204.	3.1	33
24	Diagenesis in Mesozoic carbonate rocks in the North Pyr�enes (France) from mineralogy and fluid inclusion analysis: Example of Rousse reservoir and caprock. <i>Chemical Geology</i> , 2019, 508, 30-46.	3.3	16
25	Formation of magnesium�smectite during lacustrine carbonates early diagenesis: Study case of the volcanic crater lake Dziani Dzaha (Mayotte � Indian Ocean). <i>Sedimentology</i> , 2019, 66, 983-1001.	3.1	20
26	Nature and Origin of Mineralizing Fluids in Hyperextensional Systems: The Case of Cretaceous Mg Metasomatism in the Pyrenees. <i>Geofluids</i> , 2019, 2019, 1-18.	0.7	14
27	Geochemical and sulfate isotopic evolution of flowback and produced waters reveals water-rock interactions following hydraulic fracturing of a tight hydrocarbon reservoir. <i>Science of the Total Environment</i> , 2019, 687, 1389-1400.	8.0	37
28	Thermodynamic evidence of giant salt deposit formation by serpentinization: an alternative mechanism to solar evaporation. <i>Scientific Reports</i> , 2019, 9, 11720.	3.3	20
29	Biotic�Abiotic Influences on Modern Ca�Si-Rich Hydrothermal Spring Mounds of the Pastos Grandes Volcanic Caldera (Bolivia). <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 380.	2.0	19
30	Thermodynamic properties of mixed-layer illite-smectite by calorimetric methods: Acquisition of the enthalpies of mixing of illite and smectite layers. <i>Journal of Chemical Thermodynamics</i> , 2019, 138, 78-97.	2.0	3
31	The Role of the Substrate on the Mineralization Potential of Microbial Mats in A Modern Freshwater River (Paris Basin, France). <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 359.	2.0	17
32	Hydrothermal fluid circulations in the western Pyrenees: new data on stable isotopes, in-situ gas analysis and fluid inclusions. <i>E3S Web of Conferences</i> , 2019, 98, 01001.	0.5	1
33	Cl/Br and <sup>37</sup> Cl evolution in seawater expelled during the compaction of MX-80 smectite. <i>E3S Web of Conferences</i> , 2019, 98, 12022.	0.5	1
34	Diversity and origin of quartz cements in continental carbonates: Example from the Lower Cretaceous rift deposits of the South Atlantic margin. <i>Applied Geochemistry</i> , 2019, 100, 22-41.	3.0	17
35	Quantifying the extent of flowback of hydraulic fracturing fluids using chemical and isotopic tracer approaches. <i>Applied Geochemistry</i> , 2018, 93, 20-29.	3.0	38
36	Metals and radionuclides (MaR) in the Alum Shale of Denmark: Identification of MaR-bearing phases for the better management of hydraulic fracturing waters. <i>Journal of Natural Gas Science and Engineering</i> , 2018, 53, 139-152.	4.4	11

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37	Oligo-Miocene lacustrine microbial and metazoan buildups from the Limagne Basin (French Massif) Tj ETQq1 1 0.784314 rgBJ /Overlock	2.3	25
38	The origin of low salinity formation water in turbidite sandstone reservoirs: insights from natural isotopic and chemical tracers. , 2018, , .		0
39	Halogen stable isotope studies in formation waters, a comparison between their chlorine and bromine isotope systematics. , 2018, , .		0
40	Unravelling the Processes of the H2S Generation in the North-western Pyrenees (France). , 2018, , .		2
41	Quantification of carbon dioxide sourced by mineral reactions in ultradeep sedimentary basins. Marine and Petroleum Geology, 2017, 81, 112-133.	3.3	3
42	Effects of a thermal perturbation on mineralogy and pore water composition in a clay-rock: An experimental and modeling study. Geochimica Et Cosmochimica Acta, 2017, 197, 193-214.	3.9	19
43	Geochemistry of Aquifer in Contact with Alum Shale: Evidence of Limited Contaminant Transfers. Procedia Earth and Planetary Science, 2017, 17, 786-789.	0.6	2
44	Volcanic rock alterations of the Kwanza Basin, offshore Angola - Insights from an integrated petrological, geochemical and numerical approach. Marine and Petroleum Geology, 2017, 80, 394-411.	3.3	21
45	Simulations of the Impact of Co-injected Gases on CO2 Storage, the SIGARRR Project: Processes and Geochemical Approaches for Gas-water-Salt Interactions Modeling. Energy Procedia, 2017, 114, 3322-3334.	1.8	5
46	Natural CH4 Gas Seeps in the French Alps: Characteristics, Typology and Contribution to CH4 Natural Emissions to the Atmosphere. Energy Procedia, 2017, 114, 3020-3032.	1.8	3
47	Experimental Measurement of CO <sub>2</sub> Solubility in Aqueous CaCl <sub>2</sub> Solution at Temperature from 323.15 to 423.15 K and Pressure up to 20 MPa Using the Conductometric Titration. Journal of Chemical & Engineering Data, 2017, 62, 4228-4234.	1.9	30
48	Equilibrium partial pressure of CO2 in Callovian-Oxfordian argillite as a function of relative humidity: Experiments and modelling. Geochimica Et Cosmochimica Acta, 2016, 186, 91-104.	3.9	12
49	Experimental Measurement of CO <sub>2</sub> Solubility in Aqueous NaCl Solution at Temperature from 323.15 to 423.15 K and Pressure of up to 20 MPa. Journal of Chemical & Engineering Data, 2016, 61, 3573-3584.	1.9	47
50	Origins of elements building travertine and tufa: New perspectives provided by isotopic and geochemical tracers. Sedimentary Geology, 2016, 334, 97-114.	2.1	53
51	Dissolved CO2 and Alkane Gas in Clay Formations. Procedia Earth and Planetary Science, 2015, 13, 88-91.	0.6	12
52	Chemical Conditions in Clay-Rocks. Developments in Clay Science, 2015, 6, 71-100.	0.5	17
53	Benchmarks for multicomponent reactive transport across a cement/clay interface. Computational Geosciences, 2015, 19, 635-653.	2.4	43
54	A generalized model for predicting the thermodynamic properties of clay minerals. Numerische Mathematik, 2015, 315, 734-780.	1.4	50

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55	Hydrogeochemical models locating sulfate-methane transition zone in marine sediments overlying black shales: A new tool to locate biogenic methane?. <i>Marine and Petroleum Geology</i> , 2015, 59, 563-574.	3.3	20
56	Development of an attrition-leaching hybrid process for direct aqueous mineral carbonation. <i>Chemical Engineering Journal</i> , 2015, 262, 716-726.	12.7	40
57	Rock Types in the Scandinavian Alum Shale Resource Play - Definitions and Predictions. , 2015, , .		2
58	Mineralogical and Isotopic Record of Diagenesis from the Opalinus Clay Formation at Benken, Switzerland: Implications for the Modeling of Pore-Water Chemistry in a Clay Formation. <i>Clays and Clay Minerals</i> , 2014, 62, 286-312.	1.3	25
59	Simulations of the Impact of Co-injected Gases on CO2 Storage, the SIGARRR Project: First Results on Water-gas Interactions Modeling. <i>Energy Procedia</i> , 2014, 63, 3160-3171.	1.8	10
60	Ex situ mineral carbonation for CO2 mitigation: Evaluation of mining waste resources, aqueous carbonation processability and life cycle assessment (Carmex project). <i>Minerals Engineering</i> , 2014, 59, 52-63.	4.3	66
61	Applying the squeezing technique to highly consolidated clayrocks for pore water characterisation: Lessons learned from experiments at the Mont Terri Rock Laboratory. <i>Applied Geochemistry</i> , 2014, 49, 2-21.	3.0	54
62	Simulation of Cement/Clay Interactions: Feedback on the Increasing Complexity of Modelling Strategies. <i>Transport in Porous Media</i> , 2014, 104, 385-405.	2.6	24
63	Thermodynamic properties of chlorite and berthierine derived from calorimetric measurements. <i>Physics and Chemistry of Minerals</i> , 2014, 41, 603-615.	0.8	12
64	Toxic Metals in Shales: Questions and Methods for a Better Management of Flow-Back Waters.. , 2014, , .		2
65	Controls of Ca/Mg/Fe Activity Ratios in Pore Water Chemistry Models of the Callovian-Oxfordian Clay Formation. <i>Procedia Earth and Planetary Science</i> , 2013, 7, 475-478.	0.6	12
66	Equilibrium Partial Pressure of CO2 in the Callovo-Oxfordian Argillite as a Function of Relative Humidity. <i>Procedia Earth and Planetary Science</i> , 2013, 7, 459-462.	0.6	11
67	Thermodynamic properties of saponite, nontronite, and vermiculite derived from calorimetric measurements. <i>American Mineralogist</i> , 2013, 98, 1834-1847.	1.9	21
68	In-situ interaction of cement paste and shotcrete with claystones in a deep disposal context. <i>Numerische Mathematik</i> , 2012, 312, 314-356.	1.4	42
69	Geochemical characterization and modelling of the Toarcian/Domerian porewater at the Tournemire underground research laboratory. <i>Applied Geochemistry</i> , 2012, 27, 1417-1431.	3.0	45
70	Thermodynamic properties of illite, smectite and beidellite by calorimetric methods: Enthalpies of formation, heat capacities, entropies and Gibbs free energies of formation. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 89, 279-301.	3.9	61
71	Thermoddem: A geochemical database focused on low temperature water/rock interactions and waste materials. <i>Applied Geochemistry</i> , 2012, 27, 2107-2116.	3.0	350
72	Predicting long-term geochemical alteration of wellbore cement in a generic geological CO2 confinement site: Tackling a difficult reactive transport modeling challenge. <i>Journal of Hydrology</i> , 2012, 420-421, 340-359.	5.4	71

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73	Biogeochemical processes in a clay formation in situ experiment: Part A – Overview, experimental design and water data of an experiment in the Opalinus Clay at the Mont Terri Underground Research Laboratory, Switzerland. <i>Applied Geochemistry</i> , 2011, 26, 931-953.	3.0	40
74	Biogeochemical processes in a clay formation in situ experiment: Part B – Results from overcoring and evidence of strong buffering by the rock formation. <i>Applied Geochemistry</i> , 2011, 26, 954-966.	3.0	19
75	Biogeochemical processes in a clay formation in situ experiment: Part E – Equilibrium controls on chemistry of pore water from the Opalinus Clay, Mont Terri Underground Research Laboratory, Switzerland. <i>Applied Geochemistry</i> , 2011, 26, 990-1008.	3.0	63
76	Biogeochemical processes in a clay formation in situ experiment: Part F – Reactive transport modelling. <i>Applied Geochemistry</i> , 2011, 26, 1009-1022.	3.0	20
77	Mineralogical and isotopic record of biotic and abiotic diagenesis of the Callovian–Oxfordian clayey formation of Bure (France). <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 2633-2663.	3.9	59
78	Dissolution kinetics of synthetic Na-smectite. An integrated experimental approach. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 5849-5864.	3.9	44
79	Metal speciation in landfill leachates with a focus on the influence of organic matter. <i>Waste Management</i> , 2011, 31, 2036-2045.	7.4	29
80	Selection of coals of different maturities for CO <sub>2</sub> Storage by modelling of CH <sub>4</sub> and CO <sub>2</sub> adsorption isotherms. <i>International Journal of Coal Geology</i> , 2011, 87, 80-86.	5.0	67
81	Coal laboratory characterisation for CO <sub>2</sub> geological storage. <i>Energy Procedia</i> , 2011, 4, 3147-3154.	1.8	18
82	Chemical model for cement-based materials: Temperature dependence of thermodynamic functions for nanocrystalline and crystalline C–S–H phases. <i>Cement and Concrete Research</i> , 2010, 40, 851-866.	11.0	132
83	Chemical model for cement-based materials: Thermodynamic data assessment for phases other than C–S–H. <i>Cement and Concrete Research</i> , 2010, 40, 1360-1374.	11.0	88
84	Natural iodine in a clay formation: Implications for iodine fate in geological disposals. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 16-29.	3.9	58
85	Strontium distribution and origins in a natural clayey formation (Callovian-Oxfordian, Paris Basin, France). <i>Journal of Geochemical Exploration</i> , 2010, 104, 1-14.	3.9	26
86	Comparative EPMA and <sup>129</sup> XRF methods for mapping micro-scale distribution of iodine in biocarbonates of the Callovian–Oxfordian clayey formation at Bure, Eastern part of the Paris Basin. <i>Physics and Chemistry of the Earth</i> , 2010, 35, 271-277.	2.9	17
87	Sequential extraction and spectroscopic characterisation of organic matter from the Callovo-Oxfordian formation. <i>Organic Geochemistry</i> , 2010, 41, 221-233.	1.8	12
88	Influence of reaction kinetics and mesh refinement on the numerical modelling of concrete/clay interactions. <i>Journal of Hydrology</i> , 2009, 364, 58-72.	5.4	125
89	Na <sup>+</sup> and HTO diffusion in compacted bentonite: Effect of surface chemistry and related texture. <i>Journal of Hydrology</i> , 2009, 370, 9-20.	5.4	62
90	Thermodynamic properties of chlorite Cc-2. Heat capacities, heat contents and entropies. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 4738-4749.	3.9	35

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91	A robust model for pore-water chemistry of clayrock. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 6470-6487.	3.9	177
92	Cation Exchange Selectivity Coefficient Values on Smectite and Mixed-Layer Illite/Smectite Minerals. <i>Soil Science Society of America Journal</i> , 2009, 73, 928-942.	2.2	73
93	Cation exchanged Fe(II) and Sr compared to other divalent cations (Ca,Mg) in the bure Callovian-Oxfordian formation: Implications for porewater composition modelling. <i>Applied Geochemistry</i> , 2008, 23, 641-654.	3.0	39
94	On the mobility and potential retention of iodine in the Callovian-Oxfordian formation. <i>Physics and Chemistry of the Earth</i> , 2007, 32, 539-551.	2.9	50
95	Estimate of clay minerals amounts from XRD pattern modeling: The Arquant model. <i>Physics and Chemistry of the Earth</i> , 2007, 32, 135-144.	2.9	29
96	Two cation exchange models for direct and inverse modelling of solution major cation composition in equilibrium with illite surfaces. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1098-1114.	3.9	48
97	Thermodynamic properties of anhydrous smectite MX-80, illite IMt-2 and mixed-layer illite-smectite ISCz-1 as determined by calorimetric methods. Part I: Heat capacities, heat contents and entropies. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 5463-5473.	3.9	57
98	Modelling the porewater chemistry of the Callovian-Oxfordian formation at a regional scale. <i>Comptes Rendus - Geoscience</i> , 2006, 338, 917-930.	1.2	135
99	Cement/clay interactions - A review: Experiments, natural analogues, and modeling. <i>Waste Management</i> , 2006, 26, 776-788.	7.4	222
100	Geosynthetic Clay Liner Interaction with Leachate: Correlation between Permeability, Microstructure, and Surface Chemistry. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , 2005, 131, 740-749.	3.0	88
101	Stable isotope composition of CO <sub>2</sub> outgassed from cores of argillites: a simple method to constrain $\delta^{18}O$ of porewater and $\delta^{13}C$ of dissolved carbon in mudrocks. <i>Applied Geochemistry</i> , 2005, 20, 713-725.	3.0	23
102	ANDRA underground research laboratory: interpretation of the mineralogical and geochemical data acquired in the Callovian-Oxfordian formation by investigative drilling. <i>Physics and Chemistry of the Earth</i> , 2004, 29, 55-77.	2.9	275
103	Modeling diffusion of an alkaline plume in a clay barrier. <i>Applied Geochemistry</i> , 2004, 19, 1505-1515.	3.0	99
104	Arsenic behaviour in gold-ore mill tailings, Massif Central, France: hydrogeochemical study and investigation of in situ redox signatures. <i>Applied Geochemistry</i> , 2004, 19, 1785-1800.	3.0	58