# Pierre-Yves Meslin

List of Publications by Year
in descending order



| 69 | 7,808 | 61984 43 | 91884 69 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 73 | 73 | 73 | 3965 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Cryogenic origin of fractionation between perchlorate and chloride under modern martian climate. Communications Earth & Environment, 2022, 3, . | 6.8 | 1 |
| 2 | Post-landing major element quantification using SuperCam laser induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 188, 106347. | 2.9 | 40 |
| 3 | Bedrock Geochemistry and Alteration History of the Clayâ€Bearing Glen Torridon Region of Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2022, 127, . | 3.6 | 17 |
| 4 | In situ recording of Mars soundscape. Nature, 2022, 605, 653-658. | 27.8 | 30 |
| 5 | Homogeneity assessment of the SuperCam calibration targets onboard rover perseverance. Analytica Chimica Acta, 2022, 1209, 339837. | 5.4 | 9 |
| 6 | Experimental Wind Characterization with the SuperCam Microphone under a Simulated martian Atmosphere. Icarus, 2021, 354, 114060. | 2.5 | 12 |
| 7 | The SuperCam Instrument Suite on the Mars 2020 Rover: Science Objectives and Mast-Unit Description. Space Science Reviews, 2021, 217, 1. | 8.1 | 131 |
| 8 | The Impact of Measurement Scale on the Univariate Statistics of K, Th, and U in the Earth Crust. Earth and Space Science, 2021, 8, e2021EA001786. | 2.6 | 1 |
| 9 | Laser-Induced Breakdown Spectroscopy (LIBS) characterization of granular soils: Implications for ChemCam analyses at Gale crater, Mars. Icarus, 2021, 365, 114481. | 2.5 | 11 |
| 10 | Effects of environmental factors on the monitoring of environmental radioactivity by airborne gamma-ray spectrometry. Journal of Environmental Radioactivity, 2021, 237, 106695. | 1.7 | 8 |
| 11 | The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. Space Science Reviews, 2021, 217, 4. | 8.1 | 160 |
| 12 | Analyses of Highâ€Iron Sedimentary Bedrock and Diagenetic Features Observed With ChemCam at Vera Rubin Ridge, Gale Crater, Mars: Calibration and Characterization. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006314. | 3.6 | 30 |
| 13 | Recording laser-induced sparks on Mars with the SuperCam microphone. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 174, 106000. | 2.9 | 25 |
| 14 | Iron Mobility During Diagenesis at Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006299. | 3.6 | 30 |
| 15 | SuperCam Calibration Targets: Design and Development. Space Science Reviews, 2020, 216, 138. | 8.1 | 44 |
| 16 | Mineralogy of Vera Rubin Ridge From the Mars Science Laboratory CheMin Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006306. | 3.6 | 86 |
| 17 | The Chemostratigraphy of the Murray Formation and Role of Diagenesis at Vera Rubin Ridge in Gale Crater, Mars, as Observed by the ChemCam Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006320. | 3.6 | 41 |
| 18 | Hydrogen Variability in the Murray Formation, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006289. | 3.6 | 12 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Disambiguating the soils of Mars. Planetary and Space Science, 2020, 186, 104922. | 1.7 | 16 |
| 20 | 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 |
| 21 | Mars Science Laboratory Observations of Chloride Salts in Gale Crater, Mars. Geophysical Research Letters, 2019, 46, 10754-10763. | 4.0 | 52 |
| 22 | Listening to laser sparks: a link between Laser-Induced Breakdown Spectroscopy, acoustic measurements and crater morphology. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 153, 50-60. | 2.9 | 57 |
| 23 | Methane seasonal cycle at Gale Crater on Mars consistent with regolith adsorption and diffusion. Nature Geoscience, 2019, 12, 321-325. | 12.9 | 24 |
| 24 | Copper enrichments in the Kimberley formation in Gale crater, Mars: Evidence for a Cu deposit at the source. Icarus, 2019, 321, 736-751. | 2.5 | 23 |
| 25 | Chemical alteration of fine-grained sedimentary rocks at Gale crater. Icarus, 2019, 321, 619-631. | 2.5 | 52 |
| 26 | Chemical variability in mineralized veins observed by ChemCam on the lower slopes of Mount Sharp in Gale crater, Mars. Icarus, 2018, 311, 69-86. | 2.5 | 34 |
| 27 | Gypsum, bassanite, and anhydrite at Gale crater, Mars. American Mineralogist, 2018, 103, 1011-1020. | 1.9 | 96 |
| 28 | Martian Eolian Dust Probed by ChemCam. Geophysical Research Letters, 2018, 45, 10,968. | 4.0 | 40 |
| 29 | In Situ Analysis of Opal in Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1955-1972. | 3.6 | 36 |
| 30 | Characterization of Hydrogen in Basaltic Materials With Laserâ€Induced Breakdown Spectroscopy (<scp>LIBS</scp>) for Application to <scp>MSL</scp> ChemCam Data. Journal of Geophysical Research E: Planets, 2018, 123, 1996-2021. | 3.6 | 32 |
| 31 | Background levels of methane in Marsâ€™ atmosphere show strong seasonal variations. Science, 2018, 360, 1093-1096. | 12.6 | 224 |
| 32 | Quantification of water content by laser induced breakdown spectroscopy on Mars. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 130, 82-100. | 2.9 | 65 |
| 33 | Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724. | 4.0 | 87 |
| 34 | Chemistry, mineralogy, and grain properties at Namib and High dunes, Bagnold dune field, Gale crater, Mars: A synthesis of Curiosity rover observations. Journal of Geophysical Research E: Planets, 2017, 122, 2510-2543. | 3.6 | 95 |
| 35 | Alkali trace elements in Gale crater, Mars, with ChemCam: Calibration update and geological implications. Journal of Geophysical Research E: Planets, 2017, 122, 650-679. | 3.6 | 48 |
| 36 | Roughness effects on the hydrogen signal in laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 137, 13-22. | 2.9 | 34 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Geochemistry of the Bagnold dune field as observed by ChemCam and comparison with other aeolian deposits at Gale Crater. Journal of Geophysical Research E: Planets, 2017, 122, 2144-2162. | 3.6 | 46 |
| 38 | Chemistry of diagenetic features analyzed by ChemCam at Pahrump Hills, Gale crater, Mars. Icarus, 2017, 281, 121-136. | 2.5 | 90 |
| 39 | Composition of conglomerates analyzed by the Curiosity rover: Implications for Gale Crater crust and sediment sources. Journal of Geophysical Research E: Planets, 2016, 121, 353-387. | 3.6 | 53 |
| 40 | Magmatic complexity on early Mars as seen through a combination of orbital, in-situ and meteorite data. Lithos, 2016, 254-255, 36-52. | 1.4 | 66 |
| 41 | Hydration state of calcium sulfates in Gale crater, Mars: Identification of bassanite veins. Earth and Planetary Science Letters, 2016, 452, 197-205. | 4.4 | 103 |
| 42 | The potassic sedimentary rocks in Gale Crater, Mars, as seen by ChemCam on board Curiosity. Journal of Geophysical Research E: Planets, 2016, 121, 784-804. | 3.6 | 67 |
| 43 | ChemCam activities and discoveries during the nominal mission of the Mars Science Laboratory in Gale crater, Mars. Journal of Analytical Atomic Spectrometry, 2016, 31, 863-889. | 3.0 | 134 |
| 44 | Chemical variations in Yellowknife Bay formation sedimentary rocks analyzed by ChemCam on board the Curiosity rover on Mars. Journal of Geophysical Research E: Planets, 2015, 120, 452-482. | 3.6 | 51 |
| 45 | Hydrogen detection with ChemCam at Gale crater. Icarus, 2015, 249, 43-61. | 2.5 | 58 |
| 46 | First detection of fluorine on Mars: Implications for Gale Crater's geochemistry. Geophysical Research Letters, 2015, 42, 1020-1028. | 4.0 | 107 |
| 47 | In situ evidence for continental crust on early Mars. Nature Geoscience, 2015, 8, 605-609. | 12.9 | 233 |
| 48 | Mars methane detection and variability at Gale crater. Science, 2015, 347, 415-417. | 12.6 | 373 |
| 49 | Understanding the signature of rock coatings in laser-induced breakdown spectroscopy data. Icarus, 2015, 249, 62-73. | 2.5 | 49 |
| 50 | Trace element geochemistry (Li, Ba, Sr, and Rb) using Curiosity'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 |
| 51 | Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267. | 12.6 | 323 |
| 52 | A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777. | 12.6 | 687 |
| 53 | Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480. | 12.6 | 508 |
| 54 | Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734. | 12.6 | 246 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016. | 3.6 | 214 |
| 56 | The rock abrasion record at Gale Crater: Mars Science Laboratory results from Bradbury Landing to Rocknest. Journal of Geophysical Research E: Planets, 2014, 119, 1374-1389. | 3.6 | 46 |
| 57 | Chemistry and texture of the rocks at Rocknest, Gale Crater: Evidence for sedimentary origin and diagenetic alteration. Journal of Geophysical Research E: Planets, 2014, 119, 2109-2131. | 3.6 | 48 |
| 58 | Constraints on abundance, composition, and nature of Xâ€ray amorphous components of soils and rocks at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 2640-2657. | 3.6 | 73 |
| 59 | Pre-flight calibration and initial data processing for the ChemCam laser-induced breakdown spectroscopy instrument on the Mars Science Laboratory rover. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 82, 1-27. | 2.9 | 258 |
| 60 | X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932. | 12.6 | 327 |
| 61 | Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505. | 12.6 | 280 |
| 62 | Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937. | 12.6 | 367 |
| 63 | Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072. | 12.6 | 326 |
| 64 | The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463. | 12.6 | 134 |
| 65 | Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670. | 12.6 | 215 |
| 66 | Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357. | 12.6 | 103 |
| 67 | The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. Space Science Reviews, 2012, 170, 95-166. | 8.1 | 372 |
| 68 | Little variability of methane on Mars induced by adsorption in the regolith. Planetary and Space Science, 2011, 59, 247-258. | 1.7 | 25 |
| 69 | Evidence of210Po on Martian dust at Meridiani Planum. Journal of Geophysical Research, 2006, 111, . | 3.3 | 5 |