

# C J Hardgrove

## List of Publications by Year in descending order

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Version: 2024-02-01

55  
papers

6,488  
citations

126708

33  
h-index

161609

54  
g-index

55  
all docs

55  
docs citations

55  
times ranked

4306  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.   | 6.0 | 687       |
| 2  | Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.  | 6.0 | 508       |
| 3  | Mars's™ Surface Radiation Environment Measured with the Mars Science Laboratory's™ Curiosity Rover. Science, 2014, 343, 1244797.  | 6.0 | 475       |
| 4  | Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.  | 6.0 | 367       |
| 5  | X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.   | 6.0 | 327       |
| 6  | Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.  | 6.0 | 327       |
| 7  | Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.  | 6.0 | 326       |
| 8  | Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.  | 6.0 | 323       |
| 9  | Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.   | 6.0 | 280       |
| 10 | Transient liquid water and water activity at Gale crater on Mars. Nature Geoscience, 2015, 8, 357-361.  | 5.4 | 277       |
| 11 | Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.   | 6.0 | 246       |
| 12 | Isotope Ratios of H, C, and O in CO <sub>2</sub> and H <sub>2</sub> O of the Martian Atmosphere. Science, 2013, 341, 260-263.   | 6.0 | 241       |
| 13 | Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.  | 6.0 | 215       |
| 14 | Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250. | 3.3 | 172       |
| 15 | The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.   | 6.0 | 134       |
| 16 | The Mars Science Laboratory Curiosity rover Mastcam instruments: Preflight and in-flight calibration, validation, and data archiving. Earth and Space Science, 2017, 4, 396-452.  | 1.1 | 113       |
| 17 | The origin and evolution of the Peace Vallis fan system that drains to the Curiosity landing area, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 705-728.   | 1.5 | 112       |
| 18 | Oxidation of manganese in an ancient aquifer, Kimberley formation, Gale crater, Mars. Geophysical Research Letters, 2016, 43, 7398-7407.  | 1.5 | 110       |

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|----|---|-----|-----------|
| 19 | An interval of high salinity in ancient Gale crater lake on Mars. <i>Nature Geoscience</i> , 2019, 12, 889-895.   | 5.4 | 105       |
| 20 | Low Upper Limit to Methane Abundance on Mars. <i>Science</i> , 2013, 342, 355-357.  | 6.0 | 103       |
| 21 | Chemistry, mineralogy, and grain properties at Namib and High dunes, Bagnold dune field, Gale crater, Mars: A synthesis of Curiosity rover observations. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2510-2543.  | 1.5 | 95        |
| 22 | High manganese concentrations in rocks at Gale crater, Mars. <i>Geophysical Research Letters</i> , 2014, 41, 5755-5763.   | 1.5 | 81        |
| 23 | The Mars 2020 Perseverance Rover Mast Camera Zoom (Mastcam-Z) Multispectral, Stereoscopic Imaging Investigation. <i>Space Science Reviews</i> , 2021, 217, 24.  | 3.7 | 76        |
| 24 | Evidence for a Diagenetic Origin of Vera Rubin Ridge, Gale Crater, Mars: Summary and Synthesis of Curiosity's Exploration Campaign. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006527.   | 1.5 | 69        |
| 25 | MAHLI at the Rocknest sand shadow: Science and science-enabling activities. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 2338-2360.   | 1.5 | 67        |
| 26 | Shaler: <i>in situ</i> analysis of a fluvial sedimentary deposit on Mars. <i>Sedimentology</i> , 2018, 65, 96-122.  | 1.6 | 59        |
| 27 | Water and chlorine content in the Martian soil along the first 1900 m of the Curiosity rover traverse as estimated by the DAN instrument. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1579-1596.   | 1.5 | 52        |
| 28 | Understanding the signature of rock coatings in laser-induced breakdown spectroscopy data. <i>Icarus</i> , 2015, 249, 62-73.  | 1.1 | 49        |
| 29 | Visible to near-infrared MSL/Mastcam multispectral imaging: Initial results from select high-interest science targets within Gale Crater, Mars. <i>American Mineralogist</i> , 2017, 102, 1202-1217.  | 0.9 | 43        |
| 30 | Life in the Atacama: Searching for life with rovers (science overview). <i>Journal of Geophysical Research</i> , 2007, 112, .   | 3.3 | 42        |
| 31 | Thermal imaging of alluvial fans: A new technique for remote classification of sedimentary features. <i>Earth and Planetary Science Letters</i> , 2009, 285, 124-130.   | 1.8 | 36        |
| 32 | In Situ Analysis of Opal in Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 1955-1972.  | 1.5 | 36        |
| 33 | Local variations of bulk hydrogen and chlorine-equivalent neutron absorption content measured at the contact between the Sheepbed and Gillespie Lake units in Yellowknife Bay, Gale Crater, using the DAN instrument onboard Curiosity. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1259-1275.   | 1.5 | 33        |
| 34 | Evidence for episodic alluvial fan formation in far western Terra Tyrrhena, Mars. <i>Icarus</i> , 2011, 211, 222-237.   | 1.1 | 31        |
| 35 | Neutron background environment measured by the Mars Science Laboratory's Dynamic Albedo of Neutrons instrument during the first 100 sols. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 2400-2412.   | 1.5 | 28        |
| 36 | Effects of geochemical composition on neutron die-away measurements: Implications for Mars Science Laboratory's Dynamic Albedo of Neutrons experiment. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2011, 659, 442-455. | 0.7 | 26        |

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|----|--|-----|-----------|
| 37 | Data processing of the active neutron experiment DAN for a Martian regolith investigation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 789, 114-127.                    | 0.7 | 24        |
| 38 | Hydrogen and chlorine abundances in the Kimberley formation of Gale crater measured by the DAN instrument on board the Mars Science Laboratory Curiosity rover. Journal of Geophysical Research E: Planets, 2016, 121, 836-845.                                    | 1.5 | 23        |
| 39 | Water Abundance of Dunes in Gale Crater, Mars From Active Neutron Experiments and Implications for Amorphous Phases. Geophysical Research Letters, 2018, 45, 12,766.   | 1.5 | 22        |
| 40 | Thermal imaging of sedimentary features on alluvial fans. Planetary and Space Science, 2010, 58, 482-508.  | 0.9 | 16        |
| 41 | Water equivalent hydrogen estimates from the first 200 sols of Curiosity's traverse (Bradbury) Tj ETQq1 1 0.784314 rgBT /Overlook experiment. Icarus, 2015, 262, 102-123.  | 1.1 | 16        |
| 42 | Identification and Description of a Silicic Volcaniclastic Layer in Gale Crater, Mars, Using Active Neutron Interrogation. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006180.   | 1.5 | 16        |
| 43 | The Lunar Polar Hydrogen Mapper CubeSat Mission. IEEE Aerospace and Electronic Systems Magazine, 2020, 35, 54-69.  | 2.3 | 15        |
| 44 | Thermal emission spectroscopy of microcrystalline sedimentary phases: Effects of natural surface roughness on spectral feature shape. Journal of Geophysical Research E: Planets, 2016, 121, 542-555.  | 1.5 | 14        |
| 45 | Life in the Atacama: A scoring system for habitability and the robotic exploration for life. Journal of Geophysical Research, 2007, 112, .   | 3.3 | 12        |
| 46 | Compact readout of large CLYC scintillators with silicon photomultiplier arrays. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 951, 162928.                               | 0.7 | 12        |
| 47 | Surface and subsurface composition of the Life in the Atacama field sites from rover data and orbital image analysis. Journal of Geophysical Research, 2007, 112, .  | 3.3 | 9         |
| 48 | A martian case study of segmenting images automatically for granulometry and sedimentology, Part 1: Algorithm. Icarus, 2014, 229, 400-407.   | 1.1 | 9         |
| 49 | Thermal infrared and Raman microspectroscopy of moganite-bearing rocks. American Mineralogist, 2013, 98, 78-84.  | 0.9 | 8         |
| 50 | Results from the dynamic albedo of neutrons (DAN) passive mode experiment: Yellowknife Bay to Amargosa Valley (Sols 201-753). Icarus, 2018, 299, 513-537.  | 1.1 | 7         |
| 51 | Mars Science Laboratory Dynamic Albedo of Neutrons passive mode data and results from sols 753 to 1292: Pahrump Hills to Naukluft Plateau. Icarus, 2019, 330, 75-90.   | 1.1 | 4         |
| 52 | Analysis of Active Neutron Measurements From the Mars Science Laboratory Dynamic Albedo of Neutrons Instrument: Intrinsic Variability, Outliers, and Implications for Future Investigations. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006264. | 1.5 | 4         |
| 53 | A martian case study of segmenting images automatically for granulometry and sedimentology, Part 2: Assessment. Icarus, 2014, 229, 408-417.  | 1.1 | 3         |
| 54 | Studying of water content in Mars's gale crater: The first results of the DAN experiment on the NASA Curiosity rover. Doklady Physics, 2014, 59, 126-128.  | 0.2 | 3         |

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| 55 | Observed diurnal variations in Mars Science Laboratory Dynamic Albedo of Neutrons passive mode data. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 892, 70-83. | 0.7 | 0         |