Curriculum Vitae for Ralph P. Harvey

Personal Information

Name: **Ralph Peter Harvey**
Address: Department of Earth, Environmental and Planetary Sciences
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Education: B.S., Beloit College, 1983, in Geology.
Ph.D., University of Pittsburgh, 1990, in Geology and Planetary Science.

Expertise: Planetary materials, mineralogy, geochemistry, planetary geology, igneous petrology, glaciology, chemical weathering and planetary climate change.

Contents

Professional Positions Held

- *Professor,* Department of Earth, Environmental and Planetary Sciences, Case Western Reserve University. 9-month position, tenured since May 2004. Promoted from *Associate Professor*, June 2015. *Promoted from Assistant Professor*, July 2002. Promoted from *Senior Research Associate* September 1998.

- *Visiting Senior Fellow*, NASA Glenn Research Center, June 2014-July 2015 (Sabbatical).

- *Research Associate Professor* / *Post-Doctoral Research Associate*, Department of Geological Sciences, University of Tennessee, Oct. 1990 to May 1995. Non-tenure track research position.

- *Summer Faculty Fellow*, NASA Johnson Space Center: 1996.

- *Adjunct Research Assistant Professor*, Department of Geology and Planetary Sciences, University of Pittsburgh, 1992 to 1995. Off-campus, non-tenure track research position.

- *Staff Geologist*, Huntley & Huntley, Inc., Pittsburgh, 1984-1985. Oil and gas exploration and recovery.

- *Director of Student Activities / Intramurals*, Beloit College, 1982-84. Administrative position in the office of the Dean of Students.

Awards and Recognition

• Recipient of the Faculty Distinguished Research Award (for "...outstanding contributions on a grand scale...", 2023, Case Western Reserve University.

• Recipient of the Jessica Melton Perry Award for Distinguished Teaching in Disciplinary & Professional Writing Award, 2021, Case Western Reserve University.

• 3rd Prize Award Winner in UCLA Meteorite Gallery poetry contest, 2021

• Nominated for Carl F. Wittke Award for Excellence in Undergraduate Teaching, Case Western Reserve University, 2003, 2014 and 2019.

• Nominated for Case Western Reserve University's 2017 Bruce Jackson, MD, Award for Excellence in Undergraduate Mentoring, 2017.

• Recipient of the Service Award of the Meteoritical Society, 2015.

• Fellow of the Geological Society of America, elected 2013.

• Fellow of the Meteoritical Society, elected 2004.

•Antarctic feature at Lat. 79°54’ S, Lat. 155°52’E renamed “Harvey Cirque” by the U.S. Board on Geographical Names, for service to the United States Antarctic Program, 2003.

• Asteroid 4517 renamed "Ralpharvey” in 2002 by the International Astronomical Union for contributions to the understanding of "the physical and chemical history of the solar system".

• Recognized by NASA's Early Human Testing Initiative (Johnson Space Center) for volunteer work on life support system development: 1996.

• Recognized by the American Society of Engineering Education for contributions to community education; 1996.

• Recognized by the Partners for Education Program of the Geological Society of America for contributions to K-12 education; 1996.

• Recognized by NSF's Office of Legal and Public Affairs for excellence in addressing public inquiries; 1996.

• Antarctic Service Medal from the U.S. Navy and Congress for outstanding service to the United States Antarctic Program; 1988.

Professional Service

- Principal Investigator and Field Team Leader of the US Antarctic Search for Meteorites program from 1991 to 2023. Currently Co-I and "wise old sage".
- Vice-chair, Meteorite Working Group, 1993 to 2014.
- University Representative to the Universities Space Research Association since 2008.
- Member of Preliminary Examination Team for NASA's Stardust sample return mission, 2006.
- Science Review Panel Vice-chair for NASA's 2009 Mars Science Lab Lander program, 2004.
- Member, International Meteorite Nomenclature Committee, 1998-2004.
- Chair, Planetary Geology Division of the Geological Society of America, 2000-2001 (promoted from Vice-Chair in 2000 and Secretary / Treasurer in 1998).
- Reviewer, for manuscripts submitted to *Meteoritics and Planetary Science; Geochimica et Cosmochimica Acta; Journal of Geophysical Research; Science; Reviews in Geophysics, Journal of Geophysical Research, Nature,* and *American Mineralogist*.
- Reviewer, for proposals submitted to NASA's *Cosmochemistry*, *Planetary Geoscience* and *Ancient Martian Meteorite* programs; the National Science Foundation's Office of Polar Program's *Antarctic Geology and Geophysics*, *Glaciology*, and *Mars-Rock* programs; the Smithsonian Institution; the Natural History Museum (London); the Natural Environment Research Council (London); The Italian Antarctic Research Program (Rome) and the *Scientific Committee of Antarctic Research* (international).
- Review Panel Group Chair, NASA Mars Fundamental Research Program; NASA Mars 2003 Lander Mission Program, 1999; Geological Soc. of America Technical Program, 2000-2001.
- Consulting Editor, for American Geophysical Institute's *Glossary of Geology (1997)*, Annual *Editions Geology* 98/99 and the *World Book Encyclopedia* (1997).
- Member, Geological Society of America and the Meteoritical Society.

Institutional and Local Service

- Reviewer for AW Smith Innovation Scholarship, 2021 and 2022
- Lead Trainer for CWRU's Community Emergency Response Team, 2013-2021.
- Member of Case's College of Arts and Sciences Committee on Educational Programs, 2009.
- Co-Chair, Earth and Space Sciences Grand Awards, INTEL International Science and Engineering Fair, Cleveland, Ohio, May 2003.
- Member, Advisory Council, Cleveland Natural History Museum, Reinberger Hall of Earth and Planetary Exploration, 1996-1997.

Publications (Summary statistics)

- 69 peer reviewed articles in major journals or books.
- 130 peer-reviewed abstracts.
- 12 non-peer reviewed articles and other publications.
- Over 4900 citations (average of 214 citations per year over the last 5 years).
- h-index (for all publications): 29

Publications (peer-reviewed journal articles)

(2024) K. Righter, C.M. Alexander, D. Foustokos, LM Echart, CAk Mertens, H. Busemann, C. Maden, J. Schutt, C. Satterwhite, **R.P. Harvey,** K Pando and J. Karner. Pairing Relations within CO3 chondrites recovered at the Dominion Range and Miller Range, Transantarctic mountains: Constraints from chondrule olivines, noble gas, and H, C, N bulk and isotopic compositions. *Meteoritics and Planetary Science*, **59**, 1258-1276.

(2024) M. van Ginneken, **R. P. Harvey**, S. Goderis, N. Artemieva, M. Boslough, R. Maeda, J. Gattacceca, L. Folco, A. Yamaguchi, C. Sonzogni, P. Wozniakiewicz. The identification of airbursts in the past: insights from the BIT-58 layer. *Earth and Planetary Science Letters*, **627**, 118562.

(2024) K. Welten, , M. Caffee, M. Kress, M. Giscard, A. Jull, **R. Harvey**, J. Schutt. The identification of airbursts in the past: insights from the BIT-58 layer. *Meteoritics and Planetary Science*, **59**, 3056-3071.

(2024) M. van Ginneken, P. Wozniakiewicz, D. Brownlee, V. Debaille, V. Della Corte, L. Delauche, J. Duprat, C. Engrand, L. Folco, M. Fries, J. Gattacceca,M. Genge, S. goderis, M. Gounelle, **R.P. Harvey,** G. Jonker, R. Kramer, J. Larson, J. Lever, T. Noguchi, S. Peterson, P. Rochette, A. Rotundi, N.G. Rudraswami, M. Suttle, S. Taylor, F. Van Maldeghem and M. Zolenski, Micrometeorite collections: a review, and their current status. *Philosophical Tranasactions of the Royal Society A*, **382**, 2023-0195.

(2024) **R.P. Harvey**. 2007 Service award citation for John Schutt. *Meteoritics and Planetary Science*, **59**, E7-8.

(2022) Radoman-Shaw B, **Harvey R.**, Costa G., Jacobson N, Avishai A., Nakhley L. and Vento D. Relative stability of basaltic materials in complex, naturalistic Venus surface conditions using the Glenn Extreme Environment Rig . *Meteoritics and Planetary Science*, **57**, 1796-1819.

(2021) Brase L., **Harvey R.**, Folco L., Suttle M., McIntosh E., Day J., and Corrigan C. Microtektites and glassy spherules from new sites in the Transantarctic Mountains, Antarctica. *Meteoritics and Planetary Science*, **56**, 829-843.

(2021) Di Vincenzo G., Folco L., Suttle M., Brase L. and Harvey R. Multi-collector 40Ar/39Ar dating of microtektites from Transantarctic Mountains (Antarctica): a definitive link with the Australasian tektite/microtektite strewn field. *Geochimica et Cosmochimica Acta **298**, 112-130*

(2021) M. Van Ginneken, S. Goderis, N. Artemieva, V. Debaille, S. Decrée, R.P. Harvey, K. Huwig, L. Hecht, S. Yang, F.E.D. Kaufmann, B. Soens, M. Humayun, F. Van Maldeghem, M. J. Genge, and P. Claeys. A large meteoritic event over Antarctica ca. 430 ka ago inferred from chondritic spherules from the Sør Rondane Mountains, *Science Advances* **7** : eabc 1008.

(2021) Yamaguchi A., Shiraishi K., Harvey R. The Discovery of Meteorite near the Yamato Mountains: How the 1969 Discoveries changed Planetary Science. *Meteoritics and Planetary Science* **56**, 11-12.

(2020) Schutt J., Harvey R. and Koeberl C. Memorial: William A. Cassidy (1928 - 2020). *Meteoritics and Planetary Science* **1-4**, 1352-1355.

(2019) Sidhu, J.S., Starkman G. and **Harvey R**. A counter-top search for macroscopic dark matter. *Physics Review D 103015.*

(2019) Day, J., **Harvey R.** and Hilton D. Mesozoic lithosphere beneath Mount Erebus formed prior to West Antarctic Rift System extension. *Chemical Geology* **518**, 45-54.

(2018) Van Ginneken M., Genge M., and **Harvey R**. A new type of highly-vaporized microtektite from the Transantarctic Mountains. *Geochimica et Cosmochimica Acta* **228**, 81-94.

(2018) Genge M., Van Ginneken M., Suttle MD. and **Harvey R**. Accumulation mechanisms of micrometeorites in an ancient supra-glacial moraine at Larkman Nunatak, Antarctica. *Meteoritics and Planetary Science* **53**, 2051-2066.

(2018) Costa G.C.C, Jacobson N.S., Lukco D., Hunter G.W., Nakley L. Radoman-Shaw B. and **Harvey R**. Oxidation behavior of stainless steels 304 and 316 under the Venus atmospheric surface conditions. *Corrosion Science* **132**, 260-271.

(2018) Lukco D., Spry D.J., **Harvey R**. , Costa G.C., Okojie R.S., Avishai A., Nakley L. Neudeck P.G. and Hunter G.W., Chemical Analysis of Materials Exposed to Venus Temperature and Surface Atmosphere. *Earth and Space Science* **5** https://doi.org/10.1029/2017EA000355

(2018) Zeszut Z., **Harvey R**., Gaier J., Kleinhenz J., Waters D., and Shober P. Measurements

of Adhesion in CM2 Meteorites and Associated Minerals for Applications to Small C-type Asteroids. In *Earth and Space 2018: Engineering for Extreme Environments (Malla, Goldberg and Roberts, eds)* https://doi.org/10.1061/9780784481899.

(2017) Jacobson N.S., Kulis M., Radoman-Shaw B., **Harvey R**. Myers D.L., Scaefer L. and Gegley B. Jr., Thermodynamic Constraints on the Lower Atmosphere of Venus. *Earth and Space Chemistry, 1, 422-430.*

(2017) Costa G.C.C, Jacobson N.S., Lucko D., Hunter G.W., Nakley, L., Radoman-Shaw B., and **Harvey R**. Chemical and Microstructural changes in metallic and ceramic materials exposed to Venusian Surface Conditions. *NASA Technical Report NASA/TM-2017-219437*

(2016) Van Ginneken M., Genge M. Folco L and **Harvey R**. The weathering of micro-meteorites from the Transantarctic Mountains. *Geochimica et Cosmochimica Acta*, **179**, 1-31

(2015) Tingting L, Bish D., Socki R., **Harvey R**. and Tonui E. Mineralogy and formation of evaporite deposits from the Lewis Cliff Ice Tongue, Antarctica. *Antarctic Science* **27** 73-84.

(2015) Tao S, Socki R., Bish D., **Harvey R**. Bao H, Nile P, Cavicchioli R and Tonui E. Lost cold Antarctic deserts inferred from unusual sulfate formation and isotope signatures *Nature Communications* DOI 10.1038/ncomms8579.

(2014) Righter K., Corrigan C., McCoy T. and **Harvey R**., editors, *Thirty-five Seasons of U.S. Antarctic Meteorites: A Pictorial Guide to the Collection*, Wiley Academic Press / American Geophysical Union, in press for Nov 2014 (296 pages). ISBN: 978-1-118-79832-4.

(2014) **Harvey R**., Schutt J. and Karner J., Fieldwork methods of the US Antarctic Search for Meteorites Program, in *Thirty-five Seasons of U.S. Antarctic Meteorites: A Pictorial Guide to the Collection (*Righter K., Corrigan C., McCoy T. and **Harvey R**., eds.), 23-42.

(2014) McSween H.Y Jr, **Harvey R**. and Corrigan, C., Meteorites from Mars, via Antarctica, in *Thirty-five Seasons of U.S. Antarctic Meteorites: A Pictorial Guide to the Collection (*Righter K., Corrigan C., McCoy T. and **Harvey R**., eds.), 131-144.

(2014) Corrigan, C., Welzenbach L., Righter K, McBride K, McCoy T., **Harvey R**. and Satterwhite C. A statistical look at the US Antarctic Meteorite Collection, in *Thirty-five Seasons of U.S. Antarctic Meteorites: A Pictorial Guide to the Collection (*Righter K., Corrigan C., McCoy T. and **Harvey R**., eds.), 173-188.

(2013) Love S. and **Harvey R**. Crew autonomy for deep space exploration: Lessons from the Antarctic Search for Meteorites. *Acta Astronautica* **94**, 83-92.

(2012) Rampey M. and **Harvey R.** Mars Hesperian magmatism as revealed by Syrtis Major and the circum-Hellas volcanic province. *Earth, Moon and Planets* 109, 61-75

(2012) Spaulding N.E, Spikes V.B., .Hamilton G.S, Mayewski P.A., Dunbar N.W., **Harvey R.P.** and Kurbatov A.V. Ice Motion and mass balance at the Allan Hills Icefield with implications for paleoclimate reconstructions. *Journal of Glaciology.* **58**, 399-406.

(2011) Lentz, R.C.F., McCoy, T.J., Collins, L.E., Corrigan, C.M., Benedix, G.K., Taylor, G.J., and **Harvey, R.P.** Theo's Flow, Ontario, Canada: A terrestrial analog for the Martian nakhlite meteorites, *in* Garry, W.B., and Bleacher, J.E., eds., Analogs for Planetary Exploration: *Geological Society of America Special Paper* **483**, 263–277.

(2010) **Harvey R.P.** Carbonates and Martian Climate. *Science* **329**, 400-401.

(2009) Velbel M.A. and **Harvey R.P.** Along-track compositional and textural variation in extensively melted grains returned from comet 81P/Wild 2 by the Stardust mission: Implications for capture-melting process and pre-capture composition. *Meteoritics and Planetary Science* **44**, 1519-1540.

(2009) Suavet C., Rochette P., Kars M., Gattacceca J., Folco L. and **Harvey R.P.** Statistical properties of the Transantarctic Mountains (TAM) micrometeorite collection. *Polar Science* **3**, 100-109

(2009) Botta, O., Glavin, D.P., Dworkin, J.P., Matrajt, G. and **Harvey, R.P.** Detection of AIB in Antarctic Ice Samples: Implications for Exogenous Delivery of Prebiotic Organic Compounds. *Origins of Life and Evolution of Biospheres* **39**, 225-226

(2009) Suavet C., Gattacceca J., Rochette P, Perchiazzi N., Folco L, Duprat J and **Harvey R.P.** Magnetic properties of micrometeorites. *Journal of Geophysical Research-Planets* **114**, B04102,

(2008) Leroux, H; Rietmeijer, FJM; Velbel, MA; Brearley, AJ; Jacob, D; Langenhorst, F, and **Harvey R.P.** A TEM study of thermally modified comet 81P/Wild 2 dust particles by interactions with the aerogel matrix during the Stardust capture process. *Meteoritics and Planetary Science* **43**, 97-120.

(2008) Botta O., Martins Z, Emmenegger C., Dworkin J., Glavin D. , **Harvey R.P.** , Zenobi R., Bada J. and Ehrenfreund P. Polycyclic aromatic hydrocarbons and amino acids in meteorites and ice samples from LaPaz icefield, Antarctica. *Meteoritics and Planetary Science* **43**, 1465-1480.

(2008) Rochette, P. Folco L., Suavet C., van Ginneken M., Gattecceca J, Perchiazzi N., Bruacher R. and **Harvey R.** Micrometeorites from the Transantarctic Mountains, *Proceedings National Academy of Science* **105**, 18206-18211

(2008) Rampey M.L. and **Harvey R.P.** Volcanology of Arnus Vallis, Mars. *Icarus* **196**, 49-62.

(2008) Haack H., Schutt J. Meibom A. and **Harvey R.** Results from the Greenland Search for Meteorites Expedition *Meteoritics and Planetary Science* **42,** 345-366.

(2006) Brownlee, D.E. et al. (184 authors, including **Harvey, R.P.**) Comet 81P/Wind 2 Under a Microscope. *Science* 314, 1711-1716.

(2006) Zolensky M. E. et al. (75 authors, including **Harvey, R.P.**) Mineralogy and Petrology of Comet 81P/Wind 2 Nucleus Samples. *Science* 314, 1735-1739.

(2004) Corrigan C. M. and **Harvey R. P.** Unique carbonate assemblages in Martian meteorite Allan Hills 84001: Implications for carbonate nucleation, growth and alteration. *Meteoritics and Planetary Science* **39** 17-30.

(2003) **Harvey R.P.** The Origin and Significance of Antarctic Meteorites. *Chemie der Erde* **63**, 93-147.

(2001) **Harvey R.P.**, Meibom A. and Haack, H. Meteorite Stranding Surfaces and the Greenland icesheet. *Meteoritics and Planetary Science* **36**, 807-816.

(2000) Taylor S., Lever J. and **Harvey R**. Numbers, types and compositional distribution of an unbiased collection of cosmic spherules. *Meteoritics and Planetary Science* **35**, 651-666.

(2000) Clifford S., Crisp D., Fisher D., Herkenhoff K., Smrekar S., Thomas P., Wynn-Williams D., Zurek R., Barnes J., Bills B., Blake E., Calvin W., Cameron J., Carr M., Christensen P., Clark B., Clow G., Cutts, J., Dahl-Jensen D., Durham W., Fanale F., Farmer J., Forget F., Goto-Azuma K., Grard R., Haberle R., Harrison W., **Harvey R.**, Howard A., Ingersoll A., James P., Kargel J., Kieffer W., Larson J., Malin M., McCleese D., Murray B., Nye J., Paige D., Platt S., Plaut J., Reeh N., Rice J., Smith D., Stoker C., Tanaka K., Mosley-Thompson E., Thorsteinsson T., Wood S., Zent A., Zuber M., Zwally H. The state and future of Mars polar science and exploration. *Icarus* **144**, 210-242.

(1999) McSween H.Y. Jr. and **Harvey R.P.** An evaporative model for formation of carbonates in the ALH84001 Martian meteorite. In *Planetary petrology and geochemistry* (Snyder, Neal and Ernst, eds.) Bellwether Publishing (for the Geological Society of America), Columbia MD 252-261. (also appeared in *International Geology Review* **40**, 774-783).

(1998) **Harvey R.P.**, Dunbar N.W., McIntosh W. C., Esser R. P., Nishiizumi K., Taylor S. and Caffee M.W. Meteoritic event recorded in Antarctic ice. *Geology* **26**, 607-610.

(1998) Bradley J.P., McSween H.Y. Jr. and **Harvey R.P**. Epitaxial growth of nanophase magnetite in Martian meteorite ALH84001 : Implications for biogenic mineralization. *Meteoritics and Planetary Science* **33**, 765-774.

(1998) Leshin L.A., McKeegan K. D., Carpenter P. K., and **Harvey R. P**. Oxygen isotopic constraints on the genesis of carbonates from Martian meteorite ALH84001. *Geochimica et Cosmochimica Acta* **62**, 3-13.

(1998) Taylor S., Lever J. and **Harvey R.** Accretion rate of cosmic spherules measured at the South Pole. *Nature* **392**. 899-903.

(1997) Bradley J.P., **Harvey R.P.** and McSween H.Y. Jr. Non-biologic origin of "nannofossils" in Martian meteorite ALH84001. *Nature* **390**, 454-455.

(1997) McSween H. Y. Jr. and **Harvey R. P.** Concord Plutonic Suite: Acadian gabbro-syenite intrusions in the southern Appalachians. in *The Nature of Magmatism in the Appalachian Orogen* (Sinha, A.K., Whalen, J.B. and Hogan, J.P, eds.) Geological Society of America Memoir **191**, Boulder, Colorado, 221-234.

(1996) **Harvey R.P.** and McSween H.Y. Jr. A possible high-temperature origin for the carbonates in the Martian meteorite ALH84001. *Nature,* **382,** 49-51.

(1996) Bradley J.P., **Harvey R.P.,** and McSween H.Y. Jr. Magnetite whiskers and platelets in the ALH84001 Martian Meteorite: Evidence of vapor phase growth. *Geochimica et Cosmochimica Acta* **60**, 5149-5155.

(1995) Nishiizumi K., Arnold J.R., Brownlee D.E., Caffee M.W. Ginkel R.C. and **Harvey R.P.** ^{10}Be and ^{26}Al in individual cosmic spherules from Antarctica. *Meteoritics* **30**, 728-732.

(1994) Maurette M, Immel G., Hammer C., **Harvey R.P.,** Kurat G and Taylor S. Collection and curation of IDP's from the Greenland and Antarctic ice sheets. in *The Analysis of Interplanetary Dust,* (Zolensky, Flynn, Reitmeier and Wilson, eds.) Proc. Am. Inst. Physics **310**, 277-290.

(1993) **Harvey R.P**., Wadhwa M., McSween H.Y. Jr. and Crozaz G. The petrology and mineralogy of the LEW88516 shergottite. *Geochimica et Cosmochimica Acta* **57**, 4769-4783.

(1993) McSween H.Y and **Harvey R.P.** Outgassed water on Mars: Constraints from melt inclusions in SNC meteorites. *Science* **259**, 1890-1892.

(1992) Cassidy W.A., **Harvey R.P.**, Schutt J.W., Delisle G. and Yanai K. The meteorite collection sites of Antarctica. *Meteoritics* **27** 490-525.

(1992) **Harvey R.P.** and McSween H.Y. Jr. The petrogenesis of the nakhlites: Evidence from cumulate mineral zoning. *Geochimica et Cosmochimica Acta* **56**, 1655-1663.

(1992) **Harvey R.P.** and McSween H.Y. Jr. The parent magma of the nakhlites: Clues from melt inclusions. *Earth and Planetary Science Letters* **111**, 467-482.

(1991) Cassidy W.A. and **Harvey R.P.** Are there real differences between the modern falls and the Antarctic finds? *Geochimica et Cosmochimica Acta* **55**, 99-104.

(1990) **Harvey R.P.** and Maurette M. The origin and significance of cosmic dust from the Walcott Neve, Antarctica. *Proceedings of the Lunar and Planetary Science Conference XXI*, 569-578.

(1989) **Harvey R.P.** and Cassidy W.A. A statistical comparison of Antarctic finds and modern falls: Mass frequency distributions and relative abundance by type. *Meteoritics* **24**, 9-14.

Publications (peer-reviewed abstracts)

(2024) M. Fries, P. Abell, J. Barnes, **R. Harvey**, F. McCubbin, B. Pugel, J. Waddell, L. Welzenbach, R. Zeigler. Morphological Comparison of Debris Recovered Searching for the 2018 Meteorite Fall into the Pacific with Those Recovered From the Purportedly Interstellar 2014 Fall. *Lunar and Planetary Science Conference*, Abstract #0369, Lunar and Planetary Institute, Houston.

(2024) K. Welten, M. Caffee, K. Righter, **R. Harvey**, J. Schutt, J. Karner. Terrestrial Ages and Pairing of Howardites, Eucrites and Diogenites From the Miller Range Icefields, Antarctica. *Lunar and Planetary Science Conference*, Abstract #0060, Lunar and Planetary Institute, Houston.

(2024) J. Karner, J. Schutt, **R. Harvey,** B. Rougeux. Meteorite Concentration Settings and Search Techniques at Davis Nunantaks-Mt. Ward, Antarctica. *84th Annual Mtg. Meteoritical Society*, 3036, Lunar and Planetary Institute, Houston.

(2023) K Righter, H Busemann, LM Eckart, C Alexander, D. Foustoukos, J Schutt, **RP Harvey**, J Karner, Cosmic Ray Exposure Ages, Bulk and Isotopic H, C and N Compositions of Dominion Range (DOM) CO3 Carbonaceous Chondrites and Implications for Pairing. *54th Lunar and Planetary Science Conference*, Abstract #2806, Lunar and Planetary Institute, Houston.

(2023) K Righter, J Schutt, C. Satterwhite, K. Pando, C. Corrigan, J. Karner, **RP Harvey**, C. Calva, R. Harrington, The Dominion Range (DOM) Lunar Regolith Breccia Pairing Group. *54th Lunar and Planetary Science Conference*, Abstract #2109, Lunar and Planetary Institute, Houston.

(2022) Kessler D, Starkman G., Sidhu J, **Harvey R**, Safron E, Countertops and Citizen Science for Macroscopic Dark Matter. *Bulletin of the American Physical Society*, Abstract E01.00023.

(2022) K Righter, H Busemann, LM Eckart, C Alexander, J Schutt, **RP Harvey**, J Karner, Survey of Dominion Range (DOM) and Miller Range (MIL) CO3 Carbonaceous Chondrites: Magnetic Susceptibility and Type II Chondrule Olivine Cr2O3 Contents and Their Implications for Pairing. *53rd Lunar and Planetary Science Conference*, Abstract #2678, Lunar and Planetary Institute, Houston.

(2021) J. M. Karner, **R. P. Harvey**, J. S. Schutt, B. Rougeux, Meteorite Search and Recovery at Davis Nunataks-Mt. Ward, Antarctica. *52st Lunar and Planetary Science Conference* Abstract #2609, Lunar and Planetary Institute, Houston.

(2021) J. M. Karner, **R. P. Harvey**, J. S. Schutt, B. Rougeux, Meteorite Search and Recovery at Davis Nunataks-Mt. Ward, Antarctica. *84th Annual Mtg. Meteoritical Society*, abstract # 56, Lunar and Planetary Institute, Houston.

(2021) RC Ogliore, TL Daulton, L Vacher, N Liu, R Korotev, **RP Harvey**, M Fries. Candidate Cosmic Spherule from the November 2019 Saint Louis Bolide. *52st Lunar and Planetary Science Conference* Abstract #2548, Lunar and Planetary Institute, Houston.

(2020) K. Righter, **R. P. Harvey** Contributions of Antarctic Meteorites in Understanding the Inner Solar System: The Interplay of Samples and Paradigms. *51st Lunar and Planetary Science Conference* Abstract #2701, Lunar and Planetary Institute, Houston.

(2020) J. W. Schutt, **R. P. Harvey**, C. Kelleher, J. M. Karner The Complex Relationship Between Antarctic Meteorite Concentrations and Ice Velocity. *51st Lunar and Planetary Science Conference* Abstract #1508, Lunar and Planetary Institute, Houston.

(2020) J. M. Karner, **R. P. Harvey**, J. S. Schutt, B. Rougeux. Five Things Learned from the Antarctic Search for Meteorites. *51st Lunar and Planetary Science Conference* Abstract #2835, Lunar and Planetary Institute, Houston.

(2020) M. Fries, OET and Crew of E/V Nautilus, SOI and Crew of R/V Falkor, P. Abell, **R. Harvey**, F. M. McCubbin, B. Pugel, J. Waddell, L. Welzenbach, R. Zeigler Meteoritic Material Recovered from the 07 March 2018 Meteorite Fall into the Olympic Coast National Marine Sanctuary. *51st Lunar and Planetary Science Conference* Abstract #1674, Lunar and Planetary Institute, Houston.

(2020) J. Radebaugh, L. Kerber, **R. Harvey**, J. Karner, J. Schutt, B. Rougeux, D. McDougall, J. Sevy, J. Rabinovich, B. A. Cohen, M. Telfer, O. M. Umurhan, The Antarctic Plateau: Type Example of a Planetary Wind Dominated Landscape. *51st Lunar and Planetary Science Conference*, Abstract #2845, Lunar and Planetary Institute, Houston.

(2019) Boring B., Dygert N., **Harvey R.P.** and Smye A., lithospheric Xenoliths record thermal and magmatic signature of rift development beneath Ross Island, Antarctica. *2019 AGU Fall Meeting*, Abstract # 528219, San Francisco CA.

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