

GLENN J. MACPHERSON

Peer-Reviewed Publications

1. MACPHERSON G. J. (1972) Brightness variations in the nucleus of the Seyfert galaxy NGC 6814; *Publ. Astron. Soc. Pacific* **84** : 392-393.
2. GROSSMAN L., ALLEN J.M., MACPHERSON G.J. (1980) Electron microprobe study of a "mysterite"-bearing inclusion from the Krymka LL-chondrite; *Geochim. Cosmochim. Acta* **44**: 211-216.
3. MACPHERSON G.J. AND GROSSMAN L. (1981) A once-molten, coarse-grained, Ca-rich inclusion in Allende; *Earth Planet. Sci. Lett.* **52**: 16-24.
4. GROSSMAN L., OLSEN E., DAVIS A.M., TANAKA T. AND MACPHERSON G.J. (1981) The Antarctic achondrite ALHA 76005: A polymict eucrite; *Geochim. Cosmochim. Acta* **45** : 1267-1280.
5. MACPHERSON G.J., GROSSMAN L., ALLEN J.M. AND BECKETT J.R. (1981) Origin of rims on coarse-grained inclusions in the Allende meteorite; *Proc. Lunar Planet. Sci. Conf. 12th* : 1079-1091. Pergamon Press.
6. BAR-MATTHEWS M., HUTCHEON I.D., MACPHERSON G.J. AND GROSSMAN L. (1982) A corundum-rich inclusion in the Murchison carbonaceous chondrite; *Geochim. Cosmochim. Acta* **46** : 31-42.
7. MACPHERSON G.J. (1983) The Snow Mountain volcanic complex: An on-land seamount in the Franciscan terrain, California; *Jour. Geology*, **91** : 73-92.
8. MACPHERSON G.J., BAR-MATTHEWS M., TANAKA T., OLSEN E. AND GROSSMAN L. (1983) Refractory inclusions in the Murchison meteorite; *Geochim. Cosmochim. Acta* **47** : 823-839.
9. MACPHERSON G.J. AND GROSSMAN L. (1984) Fluffy Type A inclusions in the Allende meteorite; *Geochim. Cosmochim. Acta* **48** :29-46.
10. MACPHERSON G.J. (1984) A model for predicting the volumes of vesicles in submarine basalts; *Jour. Geology*, **92** : 73-82.
11. CLAYTON R.N., MACPHERSON G.J., HUTCHEON I.D., DAVIS A.M., GROSSMAN L., MAYEDA T.K., MOLINI-VELSKO C., ALLEN J.M. AND EL GORESY A. (1984) Two forsterite-bearing FUN inclusions in the Allende meteorite; *Geochim. Cosmochim. Acta* **48** : 535-548.
12. MACPHERSON G.J., PAQUE J.M., STOLPER E. AND GROSSMAN L. (1984) The origin and significance of reverse zoning in melilite from Allende Type B inclusions; *Jour. Geology* **92** : 289-305.
13. MACPHERSON G.J., GROSSMAN L., HASHIMOTO A., BAR-MATTHEWS M. AND TANAKA T. (1984) Petrographic studies of refractory inclusions from the Murchison meteorite; *Proc. Lunar Planet. Sci. Conf. 15th; Jour. Geophys. Res. Supplement* **89**: C299-C312.

14. MACPHERSON G.J., HASHIMOTO A. AND GROSSMAN L. (1985) Accretionary rims on inclusions in the Allende meteorite; *Geochim. Cosmochim. Acta* **49** : 2267-2279.
15. MACPHERSON G.J. AND PHIPPS S.P.(1985) Comment on "Geochemical evidence for the tectonic setting of the Coast Range Ophiolite: a composite island arc - oceanic crust terrane in western California" by J.W. Shervais and D. L. Kimbrough; *Geology*, 13 :827-828.
16. MACPHERSON G.J., WARK D. A. AND ARMSTRONG J.T. (1988) Primitive materials surviving in chondrites: Refractory inclusions. In *Meteorites and the Early Solar System* (J. Kerridge and M.S. Matthews, eds.), p. 746-807. Univ. of Arizona Press.
17. MACPHERSON G.J. AND PHIPPS S.P. (1988) Geochemistry and petrology of mafic volcanic rocks from olistostromes in the basal Great Valley Sequence, Northern California Coast Ranges. *Geological Society of America Bulletin* 100: 1770-1779.
18. GROSSMAN, J. N., RUBIN, A. E., AND MACPHERSON, G. J. (1988) Allan Hills 85085: A unique volatile-poor carbonaceous chondrite with implications for nebular agglomeration and fractionation processes. *Earth Planet. Sci. Lett.* 91: 33-54.
19. MACPHERSON, G.J. AND GROSSMAN, J. N. (1988) Scanning electron microscopy of carbonaceous chondrite meteorites: Characterizing pre-planetary dust from the birth of the solar system. *Scanning Microscopy* 3, 83-87.
20. MACPHERSON, G. J., CROZAZ, G., AND LUNDBERG, L. L. (1989) The evolution of a complex Type B Allende inclusion: An ion microprobe trace element study. *Geochim. Cosmochim. Acta* 53, 2413-2427
21. SCORE R., SCHWARZ C., DELANEY J.S., MACPHERSON G.J. AND MASON B. (1989) Descriptions of stony meteorites; In *Field and Laboratory Investigations of Meteorites from Victoria Land and the Thiel Mountains Region, Antarctica, 1982-1983 and 1983-1984*, (eds. U.B. Marvin and G.J. MacPherson), *Smithsonian Contributions to the Earth Sciences* v. 28, p.29-59. Smithsonian Institution Press.
22. MAO X.-Y., WARD B.J., GROSSMAN L. AND MACPHERSON G.J. (1990) Chemical compositions of refractory inclusions from the Vigarano and Leoville carbonaceous chondrites. *Geochim. Cosmochim. Acta* 54, 2121-2132.
23. MACPHERSON G.J., PHIPPS S.P. AND GROSSMAN J.N. (1990) Diverse sources for igneous blocks from Franciscan melanges in the California Coast Ranges. *Jour. Geology* **98**, 845-862.
24. DAVIS A.M., MACPHERSON G.J., CLAYTON R.N., MAYEDA T.K., SYLVESTER P., GROSSMAN L, HINTON R.W. AND LAUGHLIN J.R. (1991) Melt solidification and late-stage evaporation in the evolution of a FUN inclusion from the Vigarano C3V chondrite. *Geochim. Cosmochim. Acta*, v. **55**, 621-638.
25. PODOSEK F.A., ZINNER E.K., MACPHERSON G.J., LUNDBERG L., BRANNON J.C. AND FAHEY A.F. (1991) Correlated study of initial $^{87}\text{Sr}/^{86}\text{Sr}$ and Al-Mg isotopic systematics and petrologic properties in a suite of refractory inclusions from the Allende meteorite. *Geochim. Cosmochim. Acta*, v. **55**, 1083-1110.

26. SYLVESTER P.J., GROSSMAN L. AND MACPHERSON G.J. (1992) Refractory inclusions with unusual chemical compositions from the Vigarano carbonaceous chondrite. *Geochim. Cosmochim. Acta*, v. **56**, 1343-1363.
27. LOSS R.D., LUGMAIR G. W., MACPHERSON G.J. AND DAVIS A.M. (1992) The nature of the ancient solar nebula: Clues from isotopic studies of primitive meteorites. In Zuber M., James O. B., Lunine J.I., MacPherson G. J. and Phillips R.J. (eds.), *Planetary Geosciences 1989-1990*, p. 33-34. NASA SP-508.
28. MASON B., MACPHERSON G.J., SCORE R., MARTINEZ R., SATTERWHITE, C., SCHWARZ C., AND GOODING J.L., (1992) Descriptions of stony meteorites; In U.B. Marvin and G.J. MacPherson, eds., *Field and Laboratory Investigations of Antarctic Meteorites Collected by United States Expeditions, 1985-1987. Smithsonian Contributions to the Earth Sciences Number 30*, p.17-35. Smithsonian Institution Press.
29. MACPHERSON G.J., AND DAVIS A.M. (1993) A petrologic and ion microprobe study of a Vigarano type B2 refractory inclusion: Evolution by multiple stages of melting and alteration. *Geochim. Cosmochim. Acta* **57**, 231-243.
30. MACPHERSON G.J., JAROSEWICH E., AND LOWENSTEIN P. (1993) Magombdze: A new H-chondrite with light-dark structure. *Meteoritics* **28**, 138-142.
31. CAILLET C., ZINNER E.K., AND MACPHERSON G.J. (1993) Petrologic and Al-Mg isotopic clues to the accretion of two refractory inclusions onto the Leoville parent body: One was hot, the other wasn't. *Geochim. Cosmochim. Acta* **57**, 4725-4743.
32. MACPHERSON G.J. AND DAVIS A.M. (1994) Refractory inclusions in the prototypical CM chondrite, Mighei. *Geochim. Cosmochim. Acta* **58**, 5599-5625.
33. LOSS R.D., LUGMAIR G. W., MACPHERSON G.J. AND DAVIS A.M. (1994) Isotopically distinct reservoirs in the solar nebula: Isotope anomalies in Vigarano meteorite inclusions. *Astrophysical Journal* **436**, L193-L196.
34. MACPHERSON G.J., DAVIS A.M. AND ZINNER E.K. (1995) The distribution of aluminum-26 in the early Solar System: A reappraisal.. *Meteoritics* **30**, 365-386. (Invited Review)
35. DAVIS A.M. AND MACPHERSON G.J. (1996) Thermal processing in the solar nebula: Constraints from refractory inclusions. In: *Chondrules and the Protoplanetary Disk* (R. H. Hewins, R. H. Jones, and E. R. D. Scott, eds.), p. 71-76. Cambridge University Press. 346 pp.
36. SWINDLE T. D., DAVIS A. M., HOHENBERG C. M., MACPHERSON G.J. AND NYQUIST L. E. (1996) Isotopic constraints on the timing of the formation of solids in the solar nebula. In: *Chondrules and the Protoplanetary Disk* (R. H. Hewins, R. H. Jones, and E. R. D. Scott, eds.), p. 77-86. Cambridge University Press. 346 pp.
37. RUSSELL S. S., SRINIVASAN, G., HUSS G. R., WASSERBURG G. J. AND MACPHERSON G. J. (1996) Evidence for Widespread ²⁶Al in the Solar Nebula and Constraints for Nebula Timescales. *Science* **273**, 757-762.
38. IVANOV A.V., MACPHERSON G.J., ZOLENSKY M.E., KONONKOVA N.N., AND MIGDISOVA L. F. (1996) The Kaidun meteorite: Composition and origin of inclusions in the metal of an enstatite chondrite clast. *Meteoritics* **31**, 621-626.

39. MCKEEGAN K. D., LESHIN L. A., RUSSELL S. S., AND MACPHERSON G. J. (1998) Oxygen isotopic abundances in calcium-aluminum-rich inclusions from ordinary chondrites: Implications for nebular heterogeneity. *Science* **280**, 414-418.
40. GIARAMITA M., MACPHERSON G. J., AND PHIPPS S. P. (1998) Petrologically diverse basalts from a fossil oceanic forearc in California: The Llanada and Black Mountain remnants of the Coast Range Ophiolite. *Geol. Soc. America Bull.* **110**, 553-571.
41. GUAN Y., HUSS G. R., MACPHERSON G. J., AND WASSERBURG G. J. (2000) Calcium-aluminum-rich inclusions from enstatite chondrites: Indigenous or foreign? *Science* **289**, 1330-1333.
42. GUAN Y., MCKEEGAN K. D., AND MACPHERSON G. J. (2000) Oxygen isotopes in calcium-aluminum-rich inclusions from enstatite chondrites: New evidence for a single CAI source in the solar nebula. *Earth and Planetary Science Letters* **181**, 271-277.
43. RUSSELL S. S., DAVIS A. M., MACPHERSON G. J., GUAN Y., AND HUSS G. R. (2000) Refractory inclusions from the ungrouped carbonaceous chondrites MAC 87300 and MAC 88107. *Meteoritics and Planetary Science* **35**, 1051-1066.
44. RUSSELL S. S., MACPHERSON G. J., LESHIN L. A., AND MCKEEGAN K. D., (2000) ^{16}O enrichments in aluminum-rich chondrules from ordinary chondrites. *Earth and Planetary Science Letters* **184**, 57-74
45. HUSS G. R., MACPHERSON G. J., WASSERBURG G. J., RUSSELL S. S., AND SRINIVASAN G. (2001) ^{26}Al in CAIs and Al-Chondrules from Unequilibrated Ordinary Chondrites. *Meteoritics and Planetary Science* **36**, 975-997.
46. BECKER H., MORGAN J. W., WALKER R. J., MACPHERSON G. J., AND GROSSMAN J. N. (2001) Rhenium-osmium systematics of calcium-aluminum-rich inclusions in carbonaceous chondrites. *Geochim. Cosmochim. Acta* **65**, 3379-3390.
47. KROT A. N., MCKEEGAN K. D., LESHIN L. A., MACPHERSON G. J., AND SCOTT E.R.D. (2002) Existence of an ^{16}O -rich gaseous reservoir in the solar nebula. *Science* **295**, 1051-1054.
48. IVANOVA M. A., PETAEV M. I., MACPHERSON G. J., NAZAROV M. A., TAYLOR L. A., AND WOOD J. A. (2002) The first known natural occurrence of CaAl_2O_4 , in a Ca-Al-rich inclusion from the CH chondrite NWA 470. *Meteoritics and Planetary Sciences* **37**, 1337-1344.
49. MACPHERSON G. J., HUSS G. R., AND DAVIS A. M. (2003) Extinct ^{10}Be in Type A CAIs From CV Chondrites. *Geochim. Cosmochim. Acta* **67**, 3165-3179.
50. MACPHERSON G. J. (2003) Calcium-aluminum-rich inclusions in chondritic meteorites. In *Meteorites, Comet And Planets* (ed. A. M. Davis) Vol. 1 *Treatise On Geochemistry* (eds. H. D. Holland and K. K. Turekian), pp. 201-246. Elsevier–Pergamon, Oxford.
51. KROT A. N., MACPHERSON G. J., ULYANOV A. A. AND PETAEV M. I. (2004) Fine-grained, spinel-rich inclusions from the reduced CV chondrites Efremovka and Leoville: I. Mineralogy, petrology and bulk chemistry. *Meteoritics and Planetary Science* **39**, 1517-1553

52. KROT A. N., YURIMOTO H., HUTCHEON I. D., AND MACPHERSON G. J. (2005) Relative chronology of CAI and chondrule formation: Evidence from chondrule-bearing igneous CAIs. *Nature* **434**, 998-1001.
53. MACPHERSON G. J., AND HUSS G. R. (2005) Petrogenesis of Al-rich chondrules: Evidence from bulk compositions and phase equilibria. *Geochim. Cosmochim. Acta* **69**, 3099-3127.
54. RUSSELL S. S., KROT A. N., HUSS G. R., KEIL K., MACPHERSON G. J., YURIMOTO H., AND ITOH S. (2005) The genetic relationship between refractory inclusions and chondrules. In *Chondrites and the Protoplanetary Disk* (A. N. Krot, E. R. D. Scott, and B. Reipurth, eds). *Astronomical Society of the Pacific Conference Series*, v. **341**, 317-350.
55. MACPHERSON G. J., SIMON S. B., DAVIS A. M., GROSSMAN L., AND KROT A. N. (2005) Calcium-aluminum-rich inclusions: Major unanswered questions. In *Chondrites and the Protoplanetary Disk* (A. N. Krot, E. R. D. Scott, and B. Reipurth, eds). *Astronomical Society of the Pacific Conference Series*, v. **341**, 225-250.
56. ALÉON J., KROT A. N., MCKEEGAN K. D., MACPHERSON G. J. AND ULYANOV A. A. (2005) Fine-grained, spinel-rich inclusions from the reduced CV chondrite Efremovka: II. Oxygen isotopic compositions. *Meteoritics and Planetary Science* **40**, 1043-1058.
57. GUAN Y., HUSS G. R., LESHIN L. A., MACPHERSON G. J. AND MCKEEGAN K. D. (2006) Oxygen isotopes and ^{26}Al - ^{26}Mg systematics of aluminum-rich chondrules from unequilibrated enstatite chondrites. *Meteoritics and Planetary Science*. **41**, 33-47
58. TAYLOR S. R., PIETERS C. M. AND MACPHERSON G. J. (2006) Chapter 7: Earth-Moon System, Planetary Science, and Lessons Learned. In Joliff B. et al. (eds) New Views Of The Moon. *Reviews in Mineralogy and Geochemistry*, v. **60**, 657-704.
59. MACPHERSON G. J., PHIPPS S., AND GIARAMITA M. J. (2006) Tectonic implications of diverse igneous blocks in Franciscan mélange: Northern California and southwestern Oregon. *American Mineralogist* **91**, 1509-1520.
60. FLYNN G. J., BLEUET P., BORG J., BRADLEY J. P., BRENKER F. E., BRENNAN S., BRIDGES J., BROWNLEE D. E., BULLOCK E. S., BURGHAMMER M., CLARK B. C., DAI Z. R., DAGHLIAN C. P., DJOUADI Z., FAKRA S., FERROIR T., FLOSS C., FRANCHI I. A., GAINSFORTH Z., GALLIEN J.-P., GILLET P., GRANT P. G., GRAHAM G. A., GREEN S. F., GROSEMY F., HECK P. R., HERZOG G. F., HOPPE P., F HÖRZ., HUTH J., IGNATYEV K., ISHII H. A., JANSSENS K., JOSWIAK D. KEARSLEY, A. T., KHODJA H., A LANZIROTTI., LEITNER J., LEMELLE L., LEROUX H., LUENING K., MACPHERSON G. J., MARHAS K. K., MARCUS M. A., MATRAJT G., NAKAMURA T., NAKAMURA-MESSENGER K., NAKANO T., NEWVILLE M., PAPANASTASSIOU D. A., PIANETTA P., RAO W., RIEKEL C., RIETMEIJER F. J. M., ROST D., SCHWANDT C. S., SEE T. H., SHEFFIELD-PARKER J., SIMIONOVICI A., SITNITSKY I., SNEAD C. J., F STADERMANN. J., STEPHAN T., STROUD R. M., SUSINI J., SUZUKI Y., SUTTON S. R., TAYLOR S., TESLICH N., TROADEC D., TSOU P., TSUCHIYAMA A., UESUGI K., VEKEMANS B., VICENZI E. P., VINCZE L., WESTPHAL A. J., WOZNIAKIEWICZ P., ZINNER E., ZOLENSKY M. E.. (2006) Elemental Compositions of Comet 81P/Wild 2 Samples Collected by Stardust. *Science* **314**, 1731-1735
61. BROWNLEE D., TSOU P., ALÉON J., ALEXANDER C. M. O., ARAKI T., BAJT S., BARATTA G. A., BASTIEN R., BLAND P., BLEUET P., BORG J., BRADLEY J. P., BREARLEY A., BRENKER F.,

- BRENNAN S., BRIDGES J. C., BROWNING N. D., BRUCATO J. R., BULLOCK E., BURCHELL M. J., BUSEMANN H., BUTTERWORTH A., CHAUSSIDON M., CHEUVRONT A., CHI M., CINTALA M. J., CLARK B. C., CLEMETT S. J., CODY G., COLANGELI L., COOPER G., CORDIER P., DAGHLIAN C., DAI Z., D'HENDECOURT L., DJOUADI Z., DOMINGUEZ G., DUXBURY T., DWORKIN J. P., EBEL D. S., ECONOMOU T. E., FAKRA S., FAIREY S. A. J., FALLON S., FERRINI G., FERROIR T., FLECKENSTEIN H., FLOSS C., FLYNN G., FRANCHI I. A., FRIES M., GAINSFORTH Z., GALLIEN J.-P., GENGE M., GILLES M. K., GILLET PH., GILMOUR J., GLAVIN D. P., GOUNELLE M., GRADY M. M., GRAHAM G. A., GRANT P. G., GREEN S. F., GROSSEMY F., GROSSMAN L., GROSSMAN J. N., GUAN Y., HAGIYA K., HARVEY R., HECK P., HERZOG G. F., HOPPE P., HÖRZ F., HUTH J., HUTCHEON I. D., IGNATYEV K., ISHII H., ITO M., JACOB D., JACOBSEN C., JACOBSEN S., JONES S., JOSWIAK D., JUREWICZ A., KEARSLEY A. T., KELLER L. P., KHODJA H., KILCOYNE A. L. D., KISSEL J., KROT A., LANGENHORST F., LANZIROTTI A., LE L., LESHIN L. A., LEITNER J., LEMELLE L., LEROUX H., LIU M.-C., LUENING K., LYON I., MACPHERSON G., MARCUS M. A., MARHAS K., MARTY B., MATRAJT G., MCKEEGAN K., MEIBOM A., MENNELLA V., MESSENGER K., MESSENGER S., MIKOUCHI T., MOSTEFAOUI S., NAKAMURA T., NAKANO T., NEWVILLE M., NITTLER L. R., OHNISHI I., OHSUMI K., OKUDAIRA K., PAPANASTASSIOU D. A., PALMA R., PALUMBO M. E., PEPIN R. O., PERKINS D., PERRONNET M., PIANETTA P., RAO W., RIETMEIJER F. J. M., ROBERT F., ROST D., ROTUNDI A., RYAN R., SANDFORD S. A., SCHWANDT C. S., SEE T. H., SCHLUTTER D., SHEFFIELD-PARKER J., SIMONOVICI A., SIMON S., SITNITSKY I., SNEAD C. J., SPENCER M. K., STADERMANN F. J., STEELE A., STEPHAN T., STROUD R., SUSINI J., SUTTON S. R., SUZUKI Y., TAHERI M., TAYLOR S., TESLICH N., TOMEOKA K., TOMIOKA N., TOPPANI A., TRIGO-RODRÍGUEZ J. M., TROADEC D., TSUCHIYAMA A., TUZZOLINO A. J., TYLISZCZAK T., UESUGI K., VELBEL M., VELLENGA J., VICENZI E., VINCZE L., WARREN J., WEBER I., WEISBERG M., WESTPHAL A. J., WIRICK S., WOODEN D., WOPENKA B., WOZNAKIEWICZ P., WRIGHT I., YABUTA H., YANO H., YOUNG E. D., ZARE R. N., ZEGA T., ZIEGLER K., ZIMMERMANN L., ZINNER E. AND ZOLENSKY M. (2006) Comet 81P/Wild 2 under a microscope. *Science* 314, 1711–1716.
62. TRONCHE E. J., HEWINS R. H., AND MACPHERSON G. J. (2007) Formation conditions of aluminum-rich chondrules. *Geochim. Cosmochim. Acta* **71**, 3361-3381.
63. MACPHERSON, G. J. (2007). Calcium-aluminium-rich inclusions in chondritic meteorites. In *Meteorites, Planets, and Comets* (Ed. A. M. Davis), Vol. 1 *Treatise on Geochemistry*, 2nd Ed. (Eds. H. D. Holland and K. K. Turekian), Elsevier, Oxford, second revision published electronically at <http://www.sciencedirect.com/science/referenceworks/9780080437514>
64. KROT A. N., YURIMOTO H., HUTCHEON I. D., LIBOUREL G., CHAUSSIDON M., TISSANDIER L., PETAEV M. I., MACPHERSON G. J., PAQUE-HEATHER J., AND WARK D. (2007) Type C Ca, Al-rich inclusions From Allende: Evidence for multistage formation. *Geochim. Cosmochim. Acta* **71**, 4332-4364.
65. FAGAN T.J., GUAN Y. AND MACPHERSON G.J. (2007) Al-Mg isotopic evidence for episodic alteration of Ca-Al-rich inclusions from Allende. *Meteoritics and Planetary Science* **42**, 1221-1240.
66. KROT A. N., YURIMOTO H., HUTCHEON I. D., MACPHERSON G. J., AND PAQUE J. (2007) Remelting of refractory inclusions in the chondrule-forming regions: Evidence from the chondrule-bearing Type C calcium-aluminum-rich inclusions from Allende. *Meteoritics*

and *Planetary Science* **42**, 1197-1219.

67. COSARINSKY M., LESHIN L. A., MACPHERSON G. J., GUAN Y., AND KROT A. N. (2008) Chemical and oxygen isotopic compositions of accretionary rim and matrix olivine in CV chondrites: Constraints on the evolution of nebular dust. *Geochim. Cosmochim. Acta* **72**, 1887-1913.
68. KROT A. N., CHAUSSIDON M., YURIMOTO H., SAKAMOTO N., NAGASHIMA K., HUTCHEON I. D. AND MACPHERSON G. J. (2008) Oxygen isotopic compositions of Allende Type C CAIs: Evidence for isotopic exchange during nebular melting and asteroidal metamorphism. *Geochim. Cosmochim. Acta* **72**, 2534-2555.
69. STEPHAN T., ROST D., VICENZI E. P., BULLOCK E. S., MACPHERSON G. J., WESTPHAL A. J., SNEAD C. J., FLYNN G. J., SANDFORD S. A., AND ZOLENSKY M. E. (2008) TOF-SIMS analysis of cometary matter in Stardust aerogel tracks. *Meteoritics and Planetary Science* **43**, 233-246.
70. MACPHERSON G. J., MITTFELDELT D. W., LIPSCHUTZ M. E., CLAYTON R. N., BULLOCK E. S., IVANOV ANDREI V., MAYEDA T. K., AND WANG M.-S. (2009) The Kaidun chondrite breccia: Petrology, oxygen isotopes, and trace element abundances. *Geochim. Cosmochim. Acta*. **73**, 5493-5511.
71. MACPHERSON G. J., BULLOCK E. S., JANNEY P. E., KITA N., USHIKUBO T., DAVIS A. M., WADHWA M., AND KROT A. N. (2010) Early solar nebula condensates with canonical, not supracanonical, initial $^{26}\text{Al}/^{27}\text{Al}$ ratios. *Astrophysical Journal Letters* 711 (2010) L117-L121.
72. MATZEL J. E. P., ISHII H. A., JOSWIAK D., HUTCHEON I. D., BRADLEY J. P., BROWNLEE D., WEBER P. K., TESLICH N., MATRAJT G., MCKEEGAN K. D., AND MACPHERSON G. J. (2010) Constraints on the formation age of cometary material from the NASA Stardust mission. *Science*. **328**, 483-486.
73. MACPHERSON G. J. AND THIEMENS M. H. (2011) Cosmochemistry: Understanding the Solar System through analysis of extraterrestrial materials. *PNAS* **108** no. 48; 19130–19134.
74. MACPHERSON G. J. AND BOSS A. (2011) Cosmochemical evidence for astrophysical processes during the formation of our solar system. *PNAS* **108** no. 48; 19152–19158.
75. BINDI L., EILER J. M., GUAN Y., HOLLISTER L., MACPHERSON G., STEINHARDT P. J., YAO N. (2012) Evidence for the extra-terrestrial origin of a natural quasicrystal. *PNAS* **109** no. 5; 1396-1401.
76. MACPHERSON G. J., KITA N. T., USHIKUBO T., BULLOCK E. S., DAVIS A. M. (2012) Well-resolved variations in formation ages for Ca-Al-rich inclusions in the early solar system. *EPSL* **331**, 43-54.
77. IVANOVA M. A., KROT A. N., NAGASHIMA K., AND MACPHERSON G. J. (2012) Compound ultrarefractory CAI-bearing inclusions from CV3 carbonaceous chondrites. *MAPS* **47**, 2107-2127.
78. BULLOCK E. S., MACPHERSON G. J., NAGASHIMA K., KROT A. N., PETAEV M. I., JACOBSEN S. B., AND ULYANOV A. A. (2012) Forsterite-bearing Type B refractory inclusions from CV3 chondrites: From aggregates to volatilized melt droplets. *MAPS* **47**, 2128-2147.

79. KITA N. T., WELTEN K. C., VALLEY J. W., SPICUZZA M. J., NAKASHIMA D., TENNER T. J., USHIKUBO T., MACPHERSON G. J., WELZENBACH L., HECK P. R., DAVIS A. M., MEIER M. M., WIELER R., CAFFEE M. W., LAUBENSTEIN M. AND NISHIZUMI K. (2013) Fall, classification and exposure history of the Mifflin L5 chondrite. *MAPS* **48**, 641-655.
80. KITA N. T., YIN Q.-Z., MACPHERSON G. J., USHIKUBO T., JACOBSEN B., NAGASHIMA K., KURAHASHI E., KROT A. N., AND JACOBSEN S. B. (2013) Al-Mg isotope systematics of the first solids in the early solar system. *MAPS* **48**, 1383–1400.
81. MACPHERSON G. J., ANDRONICOS C. L., BINDI L., DISTLER V. V., EDDY M. P., EILER J., GUAN Y., HOLLISTER L. S., KOSTIN A., KRYACHKO V., STEINHARDT W. M., YUDOVSKAYA M. and STEINHARDT P. J., (2013) Khatyrka, a new CV3 find from the Koryak Mountains, Eastern Russia. *MAPS* **48**, 1499–1514
82. BULLOCK E. S., KNIGHT K. B., RICHTER F. M., KITA N. T., USHIKUBO T., DAVIS A. M., MACPHERSON G. J., MENDYBAEV R. A. (2013) Evaporation conditions inferred from Mg and Si isotopic fractionation in melilite from Type B1 and B2 CAIs. *MAPS* **48**, 1440–1458.
83. MACPHERSON G.J. (2014) Calcium-Aluminum-Rich Inclusions in Chondritic Meteorites. In: Holland H.D. and Turekian K.K. (eds.) *Treatise on Geochemistry, Second Edition*, vol. 1, pp. 139-179. Oxford: Elsevier.
84. HOLLISTER L. S., BINDI L., YAO N., POIRIER G. R., ANDRONICOS C. L., MACPHERSON G. J., LIN C., DISTLER V. V., EDDY M. P., KOSTIN A., KRYACHKO V., STEINHARDT W. M., YUDOVSKAYA M., EILER J. M., GUAN Y., CLARKE J. J., STEINHARDT P. J. (2014) Impact-induced shock and the formation of natural quasicrystals in the early solar system. *Nature Communications* **5**:4040; DOI: 10.1038/ncomms5040
85. MACPHERSON G. J. AND KROT A. N. (2014) Distribution of Ca-Fe-silicates in CV3 chondrites: Controls by parent-body compaction. *MAPS* **49**, 1250–1270.
86. BINDI L., YAO N., LIN C., HOLLISTER L. S., MACPHERSON G. J., POIRIER G. R., ANDRONICOS C. L., DISTLER V. V., EDDY M. P., KOSTIN A., KRYACHKO V., STEINHARDT W. M. AND YUDOVSKAYA M. (2014) Steinhardtite, a new body-centered-cubic allotropic form of aluminum from the Khatyrka CV3 carbonaceous chondrite. *American Mineralogist* **99**, 2433-2436. <http://dx.doi.org/10.2138/am-2014-5108>
87. BINDI L., YAO N., LIN C., HOLLISTER L. S., ANDRONICOS C. L., DISTLER V. V., EDDY M. P., KOSTIN A., KRYACHKO V., MACPHERSON G. J., STEINHARDT W. M. YUDOVSKAYA M., AND STEINHARDT P. J. (2015) Natural quasicrystal with decagonal symmetry. *Nature Scientific Reports* **5**: 9111. DOI: 10.1038/srep09111.
88. BINDI L., YAO N., LIN C., HOLLISTER L. S., ANDRONICOS C. L., DISTLER V. V., EDDY M. P., KOSTIN A., KRYACHKO V., MACPHERSON G. J., STEINHARDT W. M. YUDOVSKAYA M., AND STEINHARDT P. J. (2015) Decagonite, Al₇₁Ni₂₄Fe₅, a quasicrystal with decagonal symmetry from the Khatyrka CV3 carbonaceous chondrite. *American Mineralogist* **100**, 2340–2343.
89. M. A. IVANOVA, C. A. LORENZ, A. N. KROT, AND G. J. MACPHERSON (2015) A compound Ca-, Al-rich inclusion from CV3 chondrite North West Africa 3118: Implications for

- understanding processes during CAI formation. *Meteoritics and Planetary Science* **50**, 1512–1528. DOI: 10.1111/maps.12489.
90. MACPHERSON G. J., NAGASHIMA K., KROT A. N., DOYLE P. M., AND IVANOVA M. A. (2017) ^{53}Mn - ^{53}Cr chronology of Ca-Fe silicates in CV3 chondrites. *Geochimica et Cosmochimica Acta* **201**, 260–274.
 91. KROT A. N. AND MACPHERSON G. J. (2017) Refractory inclusions in chondritic meteorites. *Encyclopedia of Geochemistry*.
 92. WILLIAMS C. D., USHIKUBO T., BULLOCK E. S., HERVIG R. L., HINES R. R., JANNEY P. E., KITA N. T., MACPHERSON G. J., MENDYBAEV R. A., RICHTER F. M., AND WADHWA M. (2017) Thermal and chemical evolution of the early Solar System: Part I - Petrology, mineral chemistry, and isotopic composition of Allende FUN CAI CMS-1. *Geochimica et Cosmochimica Acta*. **201**,
 93. MACPHERSON G. J., TENNER T. J., NAKASHIMA D., KITA N. T., BULLOCK E. S., IVANOVA M. A., KROT A. N., PETAEV M. I., AND JACOBSEN S. B. (2017) High precision Al-Mg systematics of forsterite-bearing Type B CAIs from CV3 chondrites. *Geochimica et Cosmochimica Acta*. **201**, 65–82.
 94. LIN C., HOLLISTER L. S., MACPHERSON G. J., BINDI L., MA C., ANDRONICOS C. L., STEINHARDT P. J. (2017) Evidence of redox reaction in the quasicrystal-bearing khatyrka meteorite reveals multi-stage formation process. *Nature Scientific Reports* **7**: 1637. DOI:10.1038/s41598-017-01445-5.
 95. ANDRONICOS C. L., BINDI L., DISTLER V.V., HOLLISTER L. S., LIN C., MACPHERSON G. J., STEINHARDT P. J., AND YUDOVSKAYA M. (2018) Comment on “Composition and origin of holotype Al-Cu-Zn minerals in relation to quasicrystals in the Khatyrka meteorite” by M. Ivanova et al. (2017). *Meteoritics & Planetary Science* **53**: 2430–2440.
 96. G. J. MACPHERSON, C. DEFOUILLOY AND N. T. KITA (2018) High-precision Al-Mg isotopic systematics in USNM 3898 – The benchmark “ALL” for initial $^{87}\text{Sr}/^{86}\text{Sr}$ in the earliest solar system. *Earth and Planetary Science Letters* **491**: 238–243.
 97. MACPHERSON G. J., KROT A. N., AND NAGASHIMA K. (2021) Al-Mg isotopic study of spinel-rich fine-grained CAIs. *Meteoritics & Planetary Science* **55**: 2529-2538.
 98. IVANOVA M. A., MENDYBAEV R. A., SHORNIKOV S. I., LORENZ C. A., AND MACPHERSON G. J. (2021) Modeling the evaporation of CAI-like melts, and constraining the origin of CH-CB CAIs. *Geochimica et Cosmochimica Acta*. **296**: 97–116.

EDITED VOLUMES

1. MARVIN U.B. AND MACPHERSON G.J. (eds.) (1989) Field and Laboratory Investigations of Meteorites from Victoria Land and the Thiel Mountains Region, Antarctica, 1982-1983 and 1983-1984, *Smithsonian Contributions to the Earth Sciences* v. 28, 146 pp. Smithsonian Institution Press.
2. ZUBER M., PLESCIA J., JAMES O. B. AND MACPHERSON G. J. (eds.) (1989) *Planetary Geosciences 1988*. NASA SP-498.

3. ZUBER M., JAMES O. B., LUNINE J.I., MACPHERSON G. J. AND PHILLIPS R.J. (eds.) (1992) *Planetary Geosciences 1989-1990*. NASA SP-508.
4. MARVIN U.B. AND MACPHERSON G.J. (eds.) (1992) Field and Laboratory Investigations of Antarctic Meteorites Collected by United States Expeditions, 1985-1987. *Smithsonian Contributions to the Earth Sciences Number 30*. Smithsonian Institution Press. 116 pp.
5. MACPHERSON G. J., MITTFELDHT D. AND JONES J. J. eds. (2008) *Oxygen In The Solar System*. Reviews in Mineralogy and Geochemistry v. 68, Mineralogical Society of America Special paper.
6. THIEMENS M. H. AND MACPHERSON G. J., eds. (2011) Special Feature on Cosmochemistry. *PNAS* **108** no. 48; 19130–19176.