

CURRICULUM VITAE

ALEXANDER M. RUZICKA

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Education

Ph.D.	1996	Planetary Sciences, University of Arizona, Tucson, AZ
M.S.	1988	Earth and Space Sciences, SUNY Stony Brook, NY
B.S.	1982	Geology, University of Minnesota, Minneapolis, MN
B.S.	1982	Geophysics, University of Minnesota, Minneapolis, MN

Employment

- Professor, Portland State University, Department of Geology, 2016-current
- Associate Professor, Portland State University, Department of Geology, 2012-2016
- Assistant Professor, Portland State University, Department of Geology, 2006-2012
- Research Assistant Professor, Portland State University, Department of Geology, 2001-2006
- Assistant Professor, Portland State University, Department of Geology, 2000
- Instructor, Portland Community College, Portland, 1999-2002
- Postdoctoral Research Fellow, University of Tennessee, Knoxville, 1996-1999
- Graduate Research Associate, University of Arizona, Tucson, 1991-1996
- Graduate Research Assistant, University of Arizona, Tucson, 1986-1991
- Graduate Teaching Assistant, University of Arizona, Tucson, 1987
- Graduate Research Assistant, SUNY Stony Brook, 1982-1985

Dissertation

Petrologic-kinetic studies of meteorites, 1996, Advisor William V. Boynton.

Refereed Publications

- Ruzicka A.M., M. Hutson, J.M. Friedrich, M.L. Rivers, M.K. Weisberg, D.S. Ebel, K. Ziegler, D. Rumble III and A.A. Dolan (2017) Petrogenesis of Miller Range 07273, a new type of anomalous melt breccia: Implications for impact effects on the H chondrite asteroid. In Press, *Meteoritics & Planetary Science*.
- Ruzicka A., H. Haack, E. Scott, and N. Chabot (2017) Iron and stony-iron meteorites: evidence for the formation, crystallization and early impact histories of differentiated planetesimals. In *Planetesimals: Early Differentiation and Consequences for Planets*, Chapter 7 (Cambridge University Press).
- Friedrich J.M., A. Ruzicka, R.J. Macke, J.O. Thostenson, R.A. Rudolph, M.L. Rivers and D.S. Ebel (2017) Relationships among physical properties as indicators of high temperature deformation or post-shock thermal annealing in ordinary chondrites. *Geochim. Cosmochim. Acta* **203**, 157-174.
- Ruzicka A., R. Brown, J. Friedrich, M. Hutson. R. Hugo and M. Rivers (2015) Shock-induced mobilization of metal and sulfide in planetesimals: Evidence from the Buck Mountains 005 (L6 S4) dike-bearing chondrite. *Am. Mineralogist* **100**, Special Collection: Building Planets: The Dynamics and Geochemistry of Core Formation, 2725-2738.
- Ruzicka A., R. Hugo and M. Hutson (2015) Deformation and thermal histories of ordinary

- chondrites: Evidence for post-deformation annealing and syn-metamorphic shock. *Geochim. Cosmochim. Acta* **163**, 219-233.
- Ruzicka A. (2014) Silicate-bearing iron meteorites and their implications for the origin of asteroidal parent bodies. *Chemie der Erde* **74**, 3-48 (Invited Review).
- Friedrich J.M., A. Ruzicka, M.L. Rivers, D.S. Ebel, J.O. Thostenson and R.A. Rudolph (2013) Metal veins in the Kernouve (H6 S1) chondrite: Evidence for pre- or syn-metamorphic shear deformation. *Geochim. Cosmochim. Acta* **116**, 71-83.
- Hutson M., A. Ruzicka, T. Jull, J. Smaller and R. Brown (2013) Stones from Mohave County, Arizona: Multiple falls in the "Franconia strewn field". *Meteorit. Planet. Sci.* **48**, 365-389.
- Ruzicka A. (2012) Chondrule formation by repeated evaporative melting and condensation in collisional debris clouds around planetesimals. *Meteorit. Planet. Sci.* **47**, 2218-2236.
- Ruzicka A., M. Hutson, C. Floss and A. Hildebrand (2012) Large silica-rich igneous-textured inclusions in the Buzzard Coulee chondrite: Condensates, differentiates, or impact melts? *Meteorit. Planet. Sci.* **47**, 1809-1829.
- Ruzicka A., C. Floss and M. Hutson (2012) Amoeboid olivine aggregates (AOAs) in the Efremovka, Leoville and Vigarano (CV3) chondrites: A record of condensate evolution in the solar nebula. *Geochim. Cosmochim. Acta* **79**, 79-105.
- Ruzicka A., C. Floss and M. Hutson (2012) Agglomeratic olivine (AO) objects in ordinary chondrites: Accretion and melting of dust to form ferroan chondrules. *Geochim. Cosmochim. Acta* **76**, 103-124.
- Jamsja N. and A. Ruzicka (2010) Shock and thermal history of NWA 4859, an annealed impact-melt breccia of LL-chondrite parentage containing unusual igneous features and pentlandite. *Meteorit. Planet. Sci.* **45**, 828-849.
- Ruzicka A. and M. Hutson (2010) Comparative petrology of silicates in the Udei Station (IAB) and Miles (IIE) iron meteorites: Implications for the origin of silicate-bearing irons. *Geochim. Cosmochim. Acta* **74**, 394-433.
- Ruzicka A., C. Floss and M. Hutson (2008) Relict olivine grains, chondrule recycling, and implications for the chemical, thermal, and mechanical processing of nebular materials. *Geochim. Cosmochim. Acta* **72**, 5530-5557.
- Hutson M., A. Ruzicka, R. Pugh, L. Sloan and E. Thompson (2007) Complex brecciation and shock effects in the Buck Mountain Wash (H3-5) chondrite. *Meteorit. Planet. Sci.* **42**, 963-978.
- Ruzicka A., H. Hiyagon, M. Hutson and C. Floss (2007) Relict olivine, chondrule recycling, and the evolution of nebular oxygen reservoirs. *Earth Planet. Sci. Lett.* **257**, 274-289.
- Ruzicka A. and M. Hutson (2006) Differentiation and evolution of the IVA meteorite parent body: Clues from pyroxene geochemistry in the Steinbach stony-iron. *Meteorit. Planet. Sci.* **41**, 1959-1987. (October 2006)
- Ruzicka A., M. Hutson and C. Floss (2006) Petrology of silicate inclusions in the Sombretete ungrouped iron meteorite: Implications for the origins of IIE-type silicate-bearing irons. *Meteorit. Planet. Sci.* **41**, 1797-1831. (July 2006)
- Ruzicka A., M. Killgore, D.W. Mittlefehldt and M.D. Fries (2005) Portales Valley: Petrology of a metallic-melt meteorite breccia. *Meteorit. Planet. Sci.* **40**, 261-296.
- Ruzicka A., G.A. Snyder and L.A. Taylor (2002) Response to the comment by G. Dreibus and H. Wänke on "Comparative geochemistry of basalts from the Moon, Earth, HED asteroid, and Mars: Implications for the origin of the Moon" (2001). *Geochim. Cosmochim. Acta* **66**, 2633-2635
- Ruzicka A., G.A. Snyder and L.A. Taylor (2001) Comparative geochemistry of basalts from the Moon, Earth, HED asteroid, and Mars: Implications for the origin of the Moon. *Geochim. Cosmochim. Acta* **65**, 979-997.
- Snyder G.A., D.-C. Lee, A. Ruzicka, M. Prinz, L.A. Taylor and A.N. Halliday (2001) Hf-W, Sm-Nd, and Rb-Sr isotopic evidence of late impact fractionation and mixing of silicates on

- iron meteorite parent bodies. *Earth Planet. Sci. Lett.* **186**, 311-324.
- Hutson M. and A. Ruzicka (2000) A multi-step model for the origin of E3 (enstatite) chondrites. *Meteorit. Planet. Sci.* **35**, 601-608.
- Ruzicka A., G.A. Snyder and L.A. Taylor (2000) Crystal-bearing lunar spherules: Impact melting of the Moon's crust and implications for the origin of meteoritic chondrules. *Meteorit. Planet. Sci.* **35**, 173-192.
- Ruzicka A., G.A. Snyder and L.A. Taylor (2000) Geochemical and isotopic evidence bearing on the origin of large, igneous-textured inclusions in ordinary chondrites. *Antarct. Meteorite Res.* **13**, 19-38.
- Ruzicka A., G.W. Fowler, G.A. Snyder, M. Prinz, J.J. Papike and L.A. Taylor (1999) Petrogenesis of silicate inclusions in the Weekeroo Station IIE iron meteorite: Differentiation, remelting, and dynamic mixing. *Geochim. Cosmochim. Acta* **63**, 2123-2143.
- Ruzicka A., L.R. Riciputi, L.A. Taylor, G.A. Snyder, J. Greenwood, R.A. Keller, G.P. Bulanova, and H.J. Millidge (1999) Petrogenesis of mantle-derived sulfide inclusions in Yakutian diamonds: Chemical and isotopic disequilibrium during quenching from high temperatures, In *7th International Kimberlite Conference*, Cape Town, South Africa, 741-749.
- Ruzicka A. (1998) Growth of mineral zones by diffusion-controlled reactions: Theory and application to mesosiderites. *Am. J. Sci.* **298**, 1-35.
- Ruzicka A., G.A. Snyder and L.A. Taylor (1998) Mega-chondrules and large, igneous-textured clasts in Julesberg (L3) and other ordinary chondrites: Vapor-fractionation, shock-melting, and chondrule formation. *Geochim. Cosmochim. Acta* **62**, 1419-1442.
- Ruzicka A., G.A. Snyder and L.A. Taylor (1998) Giant Impact and Fission Hypotheses for the Origin of the Moon: A Critical Review of Some Geochemical Evidence. *Intl. Geol. Rev.* **40**, 851-864.
- Ruzicka A. (1997) Mineral layers around coarse-grained, Ca-Al-rich inclusions in CV3 carbonaceous chondrites: Formation by high-temperature metasomatism. *J. Geophys. Res. Planets* **102**, 13387-13402.
- Ruzicka A., G.A. Snyder and L.A. Taylor (1997) Vesta as the howardite, eucrite, and diogenite parent body: Implications for the size of a core and for large-scale differentiation. *Meteorit. Planet. Sci.* **32**, 825-840.
- Ruzicka A., D.A. Kring, D.H. Hill, W.V. Boynton, R.N. Clayton and T.K. Mayeda (1995) Silica-rich orthopyroxenite in the Bovedy chondrite. *Meteoritics* **30**, 57-70.
- Ruzicka A. (1995) Nullarbor 018: A new L6 chondrite from Australia. *Meteoritics* **30**, 102-105.
- Ruzicka A., W.V. Boynton and J. Ganguly (1994) Olivine coronas, metamorphism and the thermal history of the Morristown and Emery mesosiderites. *Geochim. Cosmochim. Acta* **58**, 2725-2741.
- Ruzicka A. (1990) Deformation and thermal histories of chondrules in the Chainpur (LL3.4) chondrite. *Meteoritics* **25**, 101-113.

Non-refereed Publications

- Ruzicka A.M., and R.C. Hugo (2017) EBSD Analyses of Seven Ordinary Chondrites: Deformation Metrics and Implications for Parent Body Thermal Histories. *Meteorit. Planet. Sci.*, Abstract #6368.
- Hugo R.C., A.M. Ruzicka and A. Rubin (2017) Elbert and Saint-Severin: LL6(S4) Chondrites with Contrasting Shock Histories. *Meteorit. Planet. Sci.*, Abstract #6298.
- Ruzicka A., J. Grossman, A. Bouvier, and C.B. Agee (2017) The Meteoritical Bulletin, No. 103, *Meteorit. Planet. Sci.* **52**, 1014.
- Ruzicka A., K. Schepker and Y. Guan (2017) Trace element compositions bearing on the origins

- of large igneous inclusions in ordinary chondrites. *48th Lunar Planet. Sci. Conf.*, Abstract #2477.
- Hutson M. and A. Ruzicka (2017) Miller Range 07273: An unusual chondritic melt breccia. *48th Lunar Planet. Sci. Conf.*, Abstract #2942.
- Ruzicka A.M., K.L. Schepker, R.C. Greenwood and I.A. Franchi (2016) Combined chemical-oxygen isotope study of large igneous inclusions in ordinary chondrites. *47th Lunar Planet. Sci. Conf.*, Abstract #2230.
- Hutson M.L., A.M. Ruzicka, K.R. Farley, K.L. Schepker, R.C. Hugo and L.E. Likkel (2016) Carbides in ordinary chondrites revisited. *47th Lunar Planet. Sci. Conf.*, Abstract #1377.
- Ruzicka A., J. Grossman, A. Bouvier, C. Herd, and C.B. Agee (2015) The Meteoritical Bulletin, No. 102. *Meteorit. Planet. Sci.* **50**, 1662. Full electronic article 248 pp.
- Ruzicka A., J. Grossman, A. Bouvier, C. Herd, and C.B. Agee (2015) The Meteoritical Bulletin, No. 101. *Meteorit. Planet. Sci.* **50**, 1661. Full electronic article 136 pp.
- Strait M.M., A.N. Clayton, S.J. Jack, A.M. Ruzicka, G.J. Flynn and D.D. Durda (2015) Chemical composition of artificially hydrated ordinary chondrites. *Meteorit. Planet. Sci.*, Abstract #5324.
- Ruzicka A.M., M. Hutson, J.M. Friedrich, P.A. Bland and R. Pugh (2015) Northwest Africa 8709: A rare but revealing type 3 ordinary chondrite melt breccia. *Meteorit. Planet. Sci.*, Abstract #5348.
- Ruzicka A.M., P.M. Clay, R. Hugo, K.H. Joy and H. Busemann (2015) Contrasting early and late shock effects on the L chondrite parent body: Evidence from Ar ages and olivine microstructures for two meteorites. *Meteorit. Planet. Sci.*, Abstract #5177.
- Farley K.R. and A.M. Ruzicka (2015) NWA 8614: The least heated winonaite? *46th Lunar Planet. Sci. Conf.*, Abstract #1821.
- Hutson M.L., R.N. Pugh and A.M. Ruzicka (2015) Lessons learned from meteorite public outreach and education in the Pacific Northwest. *46th Lunar Planet. Sci. Conf.*, Abstract #1690.
- Armstrong K. and A.M. Ruzicka (2015) Major-element geochemistry of large, igneous-textured inclusions in ordinary chondrites. *46th Lunar Planet. Sci. Conf.*, Abstract #1572.
- Ruzicka, A., J.M. Friedrich, R. Hugo and M. Hutson (2015) Macro- and microstructures in ordinary chondrites: Implications for impact deformation and annealing processes. *46th Lunar Planet. Sci. Conf.*, Abstract #1544.
- Hutson M.L., A.M. Ruzicka and M. Nazari (2014) Diverse and unusual O-chondrites from the Lut desert, Iran. *Meteorit. Planet. Sci.*, Abstract #5180.
- Ruzicka A. and R. Hugo (2014) Microstructures in olivine from ordinary chondrites: Evidence for post-shock thermal annealing and syn-metamorphic shock. *45th Lunar Planet. Sci. Conf.*, Abstract #1306.
- Ruzicka A., J.N. Grossman and L. Garvie (2014) The Meteoritical Bulletin, No. 100, 2014 June. *Meteorit. Planet. Sci.* **49**, E1-E101.
- Brown R.A., A.M. Ruzicka, M. Hutson, J.M. Friedrich and M.L. Rivers (2013) Micro-tomography and electron microscopy of a shock dike in the Buck Mountains 005 L6 chondrite. Abstract, American Geophysical Union.
- Brown R., A.M. Ruzicka, M. Hutson, J.M. Friedrich and M.L. Rivers (2013), Micro-tomography and electron microscopy of a shock dike in the Buck Mountains 005 L6 chondrite, Abstract P31B-1808 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Ruzicka A. and M. Hutson (2013) Evidence from silicate-bearing irons for the nature of asteroidal differentiation. *Workshop on Planetesimal Formation and Differentiation*, Carnegie Institution of Science, Washington D.C. October 27-29.
- Armstrong K. and A. Ruzicka (2013) Survey of large, igneous-textured inclusions in O-chondrites. *Meteorit. Planet. Sci.*, Abstract #5278.

- Likkel L., A.M. Ruzicka, M. Hutson, K. Schepker, and T.R. Yeager (2013) Cohenite in chondrites: Further support for a shock-heating origin. *Meteorit. Planet. Sci.*, Abstract #5145.
- Brown R., A. Ruzicka, J. Friedrich, M. Hutson and M. Rivers (2013) A shock melt dike in 3D: Shear and melt migration in the Buck Mountains 005 L6 chondrite. *Meteorit. Planet. Sci.*, Abstract #5078.
- Ruzicka A., M. Hutson, N. Jamsja and T. Stout (2013) Anhydrous and hydrous R chondrites: Evidence from NWA 6491, 6492 and the newly discovered NWA 7514. *44th Lunar Planet. Sci. Conf.*, Abstract #1168.
- Claydon J.L., A. Ruzicka, S. A. Crowther, M. Y. P. Lee, A. Bischoff, H. Busemann and J. D Gilmour (2013). First I-Xe ages of Rumuruti chondrites and the thermal history of their parent body. *44th Lunar Planet. Sci. Conf.*, Abstract #2211.
- Hutson M., A. Ruzicka, and R. Brown (2013) A pyroxene-enriched shock melt dike in the Buck Mountains 005 (L6) chondrite. *44th Lunar Planet. Sci. Conf.*, Abstract #1186.
- Friedrich J.M., A. Ruzicka, D.S. Ebel., J.O. Thostenson, R.A. Rudolph and M.L. Rivers (2012) Early microstructures of asteroidal building blocks from 3D petrography: A compaction and porosity perspective. *Asteroids, Comets, Meteors (ACM) 2012*, Abstract #6205.
- Ruzicka, A., M. Hutson, C. Floss and A. Hildebrand (2012) Large, silica-rich igneous-textured inclusions in the Buzzard Coulee (H4) chondrite. *43rd Lunar Planet. Sci. Conf.*, Abstract #1630.
- Friedrich J.M., A. Ruzicka, D. S. Ebel, J. Thostenson, R. A. Rudolph, M. L. Rivers, R. J. Macke and D. T. Britt (2012) Three Dimensional Petrography of Kernouvé: A Story of Vein Formation, Compaction, and Metamorphism. *43rd Lunar Planet. Sci. Conf.*, Abstract #1197.
- Ruzicka A. and Hutson M. (2011) Agglomeratic olivine (AO) objects: Melting of dust to create Type II chondrules. *Workshop on Formation of the First Solids of the Solar System*, Abstract #9020.
- Ruzicka A. and R. Hugo (2011) A shocking tale: TEM observations of deformed olivine in ordinary chondrites. *Meteorit. Planet. Sci.* **46**, Abstract #5368.
- Jamsja N., A.M. Ruzicka and M. Fries (2011) New insights on hydrous phases in R chondrites NWA 6491 and 6492. *Meteorit. Planet. Sci.* **46**, Abstract #5377.
- Ruzicka A. (2011) 2011 Service Award for Richard Norman Pugh. *Meteorit. Planet. Sci.* **46**, 932-934.
- Hauver K. and A. Ruzicka (2011) Cohenite in NWA 5964 (L3-6 melt breccia): A possible product of shock-induced contact metamorphism. *42nd Lunar Planet. Sci. Conf.*, Abstract #2627.
- Jamsja N. and A. Ruzicka (2011) Presence of hydrous phases in two R chondrites, Northwest Africa 6491 and 6492. *42nd Lunar Planet. Sci. Conf.*, Abstract #2324.
- Ruzicka A., M.L. Hutson and C. Floss (2011) Amoeboid olivine aggregate condensates and the origin of the refractory element fractionation. *42nd Lunar Planet. Sci. Conf.*, Abstract #1336.
- Hutson M.L., R.N. Pugh and A. Ruzicka (2011) Meteorites on the road: Taking meteorite science to rural communities. *42nd Lunar Planet. Sci. Conf.*, Abstract #1269.
- Pugh R.N., M. Hutson and A. Ruzicka (2010) Oregon's two new meteorites: Morrow County and Fitzwater Pass. Submitted to *Oregon Academy of Sciences* (Dec. 23, 2010).
- Ruzicka A., M. Hutson and S.A. Kissin (2010) Classification of four new irons, including common (IIAB) and uncommon (IIIF, unusual IAB) types. *73rd Annual Meeting of the Meteoritical Society*, Abstract #5330.
- Ruzicka A., C. Floss and M. Hutson (2010) Accretion and melting of dust to form ferroan chondrules in ordinary chondrites. *Lunar Planet. Sci. XXXI*, Abstract #1956. Lunar and Planetary Institute.

- Hutson M.L. and A.M. Ruzicka (2010) Jungo 001, Jungo 002, Jungo 003, and Big Horn Mountains: Four new chondrites from Nevada and Arizona which contain a variety of unusual petrographic features. *Lunar Planet. Sci. XXXXI*, Abstract #1878. Lunar and Planetary Institute.
- Schepker T.J. and A. Ruzicka (2010) X-ray diffraction as a tool for the classification of equilibrated ordinary chondrites. *Lunar Planet. Sci. XXXXI*, Abstract #2644. Lunar and Planetary Institute.
- Hildebrand A.R., E.P. Milley, P.G. Brown, P.J. McCausland, W.M. Edwards, M. Beech, A. Ling, G. Sarty, M. Paulson, L.A. Maillet, S.F. Jones, M.R. Stauffer, M.L. Hutson and A.M. Ruzicka (2009) A bright multiple fragmentation fireball and meteorite fall at Buzzard Coulee, Saskatchewan, Canada, November 20, 2008. *EOS Trans. AGU*, **90 (22)**, Jt. Assem. Suppl., Abstract MA12A-01.
- Hutson M. L., R. Hugo, A.M. Ruzicka and A.E. Rubin (2009) Olivine microstructures in the Miller Range 99301 (LL6) ordinary chondrite. *Lunar Planet Sci. XXXX*, Abstract #1081, Lunar and Planetary Institute.
- Hutson M.L., A.M. Ruzicka, E.P. Milley and A.R. Hildebrand (2009) A first look at the Buzzard Coulee (H4) chondrite, a recently observed fall from Saskatchewan. *Lunar Planet Sci. XXXX*, Abstract #1893, Lunar and Planetary Institute.
- Ruzicka A. and T.J. Schepker (2008) Trace-element analyses of pyroxene and plagioclase in three HED meteorites. *Meteorit. Planet. Sci.* **43**, Abstract #5310.
- Ruzicka A., C. Floss and M. Hutson (2008) Amoeboid olivine aggregates (AOAs) in the Efremovka (CV_R) chondrite: First SIMS trace-element results. *Lunar Planet Sci. XXXIX*, Abstract #1764, Lunar and Planetary Institute.
- Schepker T.J. and A. Ruzicka (2007) XRD as a tool to constrain olivine composition: Applications to H- and L-chondrites. *Meteorit. Planet. Sci.* **42**, Abstract #5316.
- Hutson M. L. and A. Ruzicka (2007) The case against Mercury as the angrite parent body. *Meteorit. Planet. Sci.* **42**, Abstract #5238.
- Hutson M., R. Hugo, A. Ruzicka and M. Killgore (2007) Annealing after shock: Evidence from olivine microstructures in Portales Valley. *Meteorit. Planet. Sci.* **42**, Abstract #5072.
- Ruzicka A. and M. Hutson (2006) NWA 2999 and other angrites: No compelling evidence for a mercurian origin. *Meteorit. Planet. Sci.* **41**, Abstract #5080.
- Ruzicka A., C. Floss and M. Hutson (2006) Trace-element compositions of normal, dusty, and clear olivine in Chainpur chondrules. *Meteorit. Planet. Sci.* **41**, Abstract #5266.
- Hutson M.L., R.N. Pugh and A.M. Ruzicka (2006) Public outreach and education with meteorites involving a museum exhibit, website, and teacher workshops. *Lunar Planet. Sci. XXXVII*, Abstract #1095, Lunar and Planetary Institute.
- Ruzicka A. and M. Hutson (2005) Geochemical constraints for the origin of the Steinbach (IVA) stony iron meteorite. *Meteorit. Planet. Sci.*, **40**, A133 (Abstract #5279).
- Fries M., A. Steele and A. Ruzicka (2005) Carbon and mineral phase distribution on a CV3 dark inclusion boundary – A confocal raman imaging study. *Meteorit. Planet. Sci.*, **40**, A52 (Abstract #5236).
- Ruzicka A., H. Hiyagon and C. Floss (2005) Relict olivine, chondrule recycling, and evolution of oxygen reservoirs. *Workshop on Oxygen in Asteroids and Meteorites*, Abstract #1422, Lunar and Planetary Institute.
- Ruzicka A. and M. Hutson (2005) Filter-press differentiation: A newly-recognized fractionation mechanism for silicate inclusions in Sombroete and possibly in other iron meteorites. *Lunar Planet. Sci. XXXVI*, Abstract #1169, Lunar and Planetary Institute (CD-ROM).
- Ruzicka A. and M. Hutson (2005) Portales Valley: Not just another ordinary chondrite. Manuscript published electronically, Planetary Science Research Discoveries (PSRD), University of Hawai'i, <http://www.psrhawaii.edu/Sept05/PortalesValley.html>
- Ruzicka A. and C. Floss (2004) Forsterite and olivine in Sahara-97210 (LL3.2) and Chainpur

- (LL3.4) chondrules: Compositional evolution and the influence of melting. *Lunar Planet. Sci.* XXXV, Abstract #1422, Lunar and Planetary Institute (CD-ROM).
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- Pugh R., A. Ruzicka, M. Hutson and B. Schmeer (2004) Eyewitness reports for the June 3, 2004 Pacific Northwest Fireball. Electronic publication by the "June 3, 2004 Fireball project" at <http://astrowww.phys.uvic.ca/%7Eetatum/fireball/ruzicka.pdf>
- Ruzicka A. and M. Hutson (2003) Evidence for silicate liquid immiscibility within silicate inclusions during rapid cooling of the Sombretete (Ungrouped) iron meteorite. *Meteorit. Planet. Sci.*, **38**, A129.
- Lindsay T., A. Ruzicka and M. Killgore (2003) Origin of silicate inclusions in the Miles (IIE) iron: Minimal partial melting, maximal fractional crystallization. *Meteorit. Planet. Sci.*, **38**, A102.
- Ruzicka A. and C. Floss (2003) Relict forsterite and igneous olivine grains in Chainpur (LL3.5) chondrules: Major- and trace-element evidence for vapor-fractionation and igneous partitioning. *Lunar Planet. Sci.* XXXIV, Abstract #1243, Lunar and Planetary Institute (CD-ROM).
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- Ruzicka A. (2001) Book Review: "The Moon: Resources, Future Development and Colonization", by D. Shunk, B. Sharpe, B. Cooper, and M. Thangavelu. *Meteorit. Planet. Sci.* **36**, 474.
- Ruzicka A., M. Killgore, J. Boesenberg and M. Prinz (2000) Portales Valley: Not just another "ordinary" chondrite. *Meteorit. Planet. Sci.* **35**, A139-A140.
- Ruzicka A., J.F. McHone and M. Killgore (2000) Portales Valley: Discovery of a large graphite nodule. *Meteorit. Planet. Sci.* **35**, A140.
- Ruzicka A., H. Hiyagon, M. Prinz and L.A. Taylor (2000) Forsteritic olivine grains in unequilibrated ordinary chondrites: Additional evidence for a link between ordinary and carbonaceous chondrites. *Lunar Planet. Sci.* XXXI, Abstract #1312, Lunar & Planetary Institute (CD-ROM).
- Ruzicka A. (2000) Magnetic lineations on Mars: Evidence for plate tectonics, or for magnetic eolian deposits? *Lunar Planet. Sci.* XXXI, Abstract #1575, Lunar & Planetary Institute (CD-ROM).
- Ruzicka A., G.A. Snyder and L.A. Taylor (1999) Origins of large, igneous-textured inclusions in ordinary chondrites. *Antarctic Meteorites XXIV*, pp. 160-162.
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- Ruzicka A., E.A. Jerde, G.A. Snyder and L.A. Taylor (1999) A large, igneous-textured inclusion containing co-existing enstatite and ferroan olivine in the LEW 86018 (L3.1) chondrite. *Lunar Planet. Sci. Conf.* XXX, Abstract #1502, Lunar and Planetary Institute, Houston (CD-ROM).
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Honors, Grants, and Fellowships

- 2016 Named **Fellow of the Meteoritical Society**.
- 2014 **Collaborator of awarded NASA grant** for “Chondritic materials as products of asteroidal processing” (3 years starting 2014, PI Alan Rubin, Subaward PI Alex Ruzicka, NASA Cosmochemistry program).
- 2014 **PI (with R. Hugo) of awarded PSU ERPDF grant** for “Understanding the origin of iron carbides in meteorites”.
- 2013 **PI of awarded NASA grant** for “The origin of large, igneous-textured inclusions in ordinary chondrites” (3 years, starting 2013, NASA Cosmochemistry program, with extension to 2017).
- 2012 **PI of awarded NASA grant** for “Acquisition of an Electron Back Scatter Detector for the Zeiss Sigma SEM at Portland State University” (NASA Planetary Major Equipment program, award period 2012-2014 with extension to 2015).
- 2010 **PI of awarded NASA grant** for “Shock histories of chondrites as revealed by combined microstructural (TEM), petrographic, and X-ray microtomography (μ CT) analysis” (award period 2010-2013 with 2 year extension to 2015, NASA Origins of Solar Systems program).
- 2010 **PI of awarded NASA grant** for “Meteorites on the Road, II: Expanding NASA Outreach in the Pacific Northwest” (award period 2010-2013 with 1 year extension to 2014, NASA Supplemental Outreach program).
- 2009 **PI of awarded PSU Faculty Development Grant** for “Shock and Awe: Collisions and Heating in the Early Solar System”.
- 2009 **Collaborator of awarded NASA grant** for “Constraints on Solar-System Processes from Geochemical Studies of Asteroidal and Nebular Materials” (3 years, PI Alan Rubin, NASA Cosmochemistry program)
- 2009 **Outstanding Researcher Award** in Earth Sciences from the Columbia-Willamette Chapter of Sigma Xi.
- 2006 **PI of awarded NASA Grant** for “Meteorites on the road: Taking meteorite science to rural communities” (award period 2006-2009 with one-year extension to 2010, NASA Supplemental Education/Public Outreach program).
- 2006 **PI of awarded NASA Grant** for "Evolution of primordial matter: Aggregational olivine inclusions in carbonaceous and ordinary chondrites" (award period 2006-2009 with one-year extension to 2010, NASA Origins program).
- 2005 **PI of awarded PSU Faculty Development Grant** for “Laying the groundwork for a vibrant program in meteorite science at PSU”.
- 2003 **PI of awarded NASA Grant** for "Public outreach and education with meteorites involving a museum exhibit, website, and teacher workshops" (award period 2004-2006 with one year extension to 2007, NASA Supplemental Education/Public Outreach program).
- 2003 **PI of awarded NASA Grant** for "From grains to chondrules and beyond: The origin of ‘relict’ olivine grains in ordinary chondrites" (award period 2003-2006 with one-year extension to 2007, NASA Origins program).
- 2003 **PI of awarded NASA Grant** for "Asteroidal differentiation: Origin and petrogenesis of silicate inclusions in iron meteorites" (award period 2003-2006 with one-year extension to 2007, NASA Cosmochemistry program).
- 2002 **PI of awarded PSU Faculty Development Grant** for "Trace-element study of silicates in an iron meteorite: Seed money for a research program".
- 2001 **PI of Oregon Space Grant** for "Microbial colonization in meteorites: A proof-of-concept study".
- 1996-1999 **Co-I**, NASA research proposals, with P.I. Lawrence Taylor (1996, 1997,

- 1998, 1999).
- 1996 **Recipient of the Gerard P. Kuiper Memorial Award** from the Department of Planetary Sciences, University of Arizona, for exceptional achievement in graduate studies.
- 1986-1988 **Graduate Student Scholarship**, University of Arizona.
- 1982 **NASA Planetary Geology Undergraduate Research Fellow.**

Significant Professional Development Activities

- 2005-2007 **Science Team member for Hera**, a proposed NASA asteroid sample return mission.
- 2003-current **Director & cofounder (with M. Hutson and D. Pugh) of the Cascadia Meteorite Laboratory (CML)** at PSU.

Professional Service

- 2012-current **Oregon Space Grant Consortium Affiliate** representing Portland State University.
- 2012-2014 **Chair, Membership Committee**, Meteoritical Society.
- 2010-2015 **Nomenclature Committee**, Meteoritical Society.
- 2008-current **Associate Editor**, *Meteoritics and Planetary Science*.
- 2009-2011 **Member, Membership Committee**, Meteoritical Society.
- 2001-current **Board of Editors**, Astrobiology.
- 2001-2008 **Board Member**, Columbia-Willamette Chapter of Sigma Xi, the scientific research society.

Membership in Professional Societies

Member of the Meteoritical Society, Sigma Xi.

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[Both websites designed and maintained by Alex Ruzicka]