Curriculum Vitae, Denton S. Ebel

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DEGREES

Ph.D.	Purdue University	Geology, December, 1993
M.S.	Purdue University, W. Lafayette, IN	Geology, August 1988
B.A.	Harvard College, Cambridge, MA	Sociology, June 1982

ACADEMIC APPOINTMENTS

2012-present	Chair, Division of Physical Sciences, AMNH.
2011-present	Curator, American Museum of Natural History, NY.
2011-present	Professor, Richard Gilder Graduate School, AMNH.
2007-present	Curator-in-Charge, Dept. of Earth and Planetary Sciences, AMNH.
2007-2011	Associate Professor, Richard Gilder Graduate School, AMNH.
2006-2011	Associate Curator with tenure, AMNH.
2009-present	Adjunct Graduate Faculty, CUNY Graduate School and University Center, Ph.D. Program in Earth & Environmental Sciences.
2005-present	Director, OFM Research (www.ofm-research.org).
2002-present	Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory of Columbia University, New York.
2001-2006	Assistant Curator, Meteorites, American Museum of Natural History, NY.
1999-2001	Research Scientist, University of Chicago, Chicago, Illinois.
1995-1999	Research Associate, University of Chicago, with L. Grossman.
1993-1995	Post Doctoral Fellow, University of Toronto, with A.J. Naldrett.
1985-87; 90-93	Teaching fellow in mineralogy and petrology, Purdue University.
1982	Geological field assistant, Sierra Nevada, with J. Parker.

PUBLICATIONS (submitted and in revision)

(2014) **Matrix chondrule relationship and the origin of chondrules.** Palme, H., D. C. Hezel and D. S. Ebel. Submitted to *Earth and Planetary Science Letters***.**

(2014) **Experimental investigation of condensation predictions in dust-enriched systems.** Ustunisik, G, D. S. Ebel, D. Walker, and J. S. Boesenberg. Submitted to *Geochimica et Cosmochimica Acta***.**

(2014) **Laboratory spectroscopy in Herschel/PACS range of astrophysically important minerals.** Brusentsova T. N., D. Maukonen, P. Figueiredo, H. Saxena, R. E. Peale, A. Nissinboim, J. Boesenberg, J. Leibold, K. Sherman, G. E. Harlow, D. S. Ebel, K. Hibbitts and C. M. Lisse. Submitted to *Monthly Notices of the Royal Astronomical Society***.**

PUBLICATIONS (peer reviewed, accepted)

(2014) **Mercury's weather-beaten surface: Understanding Mercury in the context of lunar and asteroid space weathering studies**. Domingue D. L., C. R. Chapman, R. M. Killen, T. H. Zurbuchen, J. A. Gilbert, M. Sarantos, M. Benna, J. A. Slavin, D. Schriver, P. M. Trávníček, T. M.

Orlando, A. L. Sprague, D. T. Blewitt, J. J. Gillis-Davis, W. C. Feldman, D. J. Lawrence, G. C. Ho, D. S. Ebel, F. Vilas, C. M. Pieters, S. C. Solomon, W. E. McClintock, J. Helbert. *Space Science Reviews* (in press).

(2013) **Djerfisherite: Nebular source of refractory potassium**. Ebel, D. S. and R. O. Sack. *Contributions to Mineralogy & Petrology* **166**: 923-934.

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(2013) **Mineral processing by short circuits in protoplanetary disks**. McNally C.P., A. Hubbard, M-M. Mac Low, D.S. Ebel, and P. D'Alessio. *Astrophysical J Letters* 767: L2-7 (arXiv:1301.1698)

(2012) **Radar enabled recovery of the Sutter's Mill meteorite, a carbonaceous chondrite regolith breccia**. Jenniskens, P., D. S. Ebel, J. M. Friedrich and 67 other coauthors. *Science* 338: 1583-1587 (DOI: 10.1126/science.1227163 Online Supplement: www.sciencemag.org/cgi/content/full/338/6114/1583/DC1) AMNH DSpace CT data supplement: digitallibrary.amnh.org/dspace/handle/2246/6408

(2012) **Short-term survival of ammonites in New Jersey after the end-Cretaceous bolide impact.** Landman, N.H., M. P. Garb, R. Rovelli, D. S. Ebel, and L. E. Edwards. *Acta Palaeontologica Polonica* **57**: 703-715 (doi: http://dx.doi.org/10.4202/app.2011.0068)

(2012) **Laboratory far-infrared spectroscopy of terrestrial sulphides to support analysis of cosmic dust spectra.** Brusentsova T., R.E. Peale, D. Maukonen, P. Figueiredo, G.E. Harlow, D.S. Ebel, A. Nissinboim, K. Sherman, and C.M. Lisse. *Monthly Notices of the Royal Astronomical Society* 420: 2569-2579. (DOI: 10.1111/j.1365-2966.2011.20228.x)

(2012) **Questions, questions: Can the contradictions between the petrologic, isotopic, thermodynamic, and astrophysical constraints on chondrule formation be resolved?** Alexander, C. M. O'D. and D. S. Ebel. *Meteoritics and Planetary Science* **47**: 1157-1175.

(2012) **Properties of original impactors estimated from three-dimensional analysis of whole Stardust tracks.** Greenberg, M., and D. S. Ebel *Meteoritics and Planetary Science* **47**: 634-648.

(2012) **Thermochemical stability of low-iron, manganese-enriched olivine in astrophysical environments.** Ebel, D.S. and M. K. Weisberg. *Meteoritics and Planetary Science* **47**: 585-593.

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(2011) **Petrology and oxygen isotopic compositions of chondrules in E3 chondrites.** Weisberg, M. K., D. S. Ebel, H. C. Connolly Jr., N. Kita and T. Ushikubo *Geochimica et Cosmochimica Acta* **75**: 6556-6569.

(2011) **Radioactive elements on Mercury's surface from MESSENGER: Implications for the planet's formation and evolution.** Peplowski, P. N., L. G. Evans, S. A. Hauck II, T. J. McCoy, W.V. Boynton, J. Gillis-Davis, D. S. Ebel, J. O. Goldsten, D. K. Hamara, D. J. Lawrence, R. L. McNutt Jr., L. R. Nittler, S. C. Solomon, E. A. Rhodes, A.L. Sprague, R. D. Starr, and K. R. Stockstill-Cahill. *Science* **333**: 1850-1852.

(2011) **The major-element composition of Mercury's surface from MESSENGER x-ray spectrometry.** Nittler, L. R., R. D. Starr, S. Z. Weider, T. J. McCoy, W. V. Boynton, D. S. Ebel, C. M. Ernst, L. G. Evans, J. O. Goldsten, D. K. Hamara, D. J. Lawrence, R. L. McNutt Jr., C. E. Schlemm II, S. C. Solomon, and A. L. Sprague. *Science* **333**: 1847-1850.

(2011) **Laboratory experiments bearing on the origin and evolution of olivine-rich chondrules.** Richter, F. M., R. A. Mendybaev, J. N. Christensen, D. S. Ebel, and A. Gaffney. *Meteoritics and Planetary Science* **46**: 1152-1178.

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(2011) **Magnetic evidence for a partially differentiated carbonaceous chondrite parent body.** Carporzen, L., B. P. Weiss, L. Elkins-Tanton, D. L. Schuster, Ebel, D., and J. Gattacceca *Proceedings of the National Academy of Sciences* **108**: 6386-6389.

(2010) **The solar system primordial lead.** Blichert-Toft, J., B. Zanda, D.S. Ebel, and F. Albarède. *Earth and Planetary Science Letters* **300**: 152-163.

(2010) **Far infrared spectroscopy of the carbonate minerals.** Brusentova, T.N., R. E. Peale, D. Maukonen, G. E. Harlow, J. S. Boesenberg, and D. S. Ebel. *American Mineralogist* **95**: 1515-1522.

(2010) **Laser Scanning Confocal Microscopy of Comet Material in Aerogel**. Greenberg, M. and D. S. Ebel. *Geosphere* **6**: 515-523.

(2009) **Incompletely compacted equilibrated ordinary chondrites**. Sasso, M.R., R.J. Macke, J.S. Boesenberg, D.T. Britt, M.L. Rivers, D.S. Ebel and J.M. Friedrich. *Meteoritics and Planetary Science* **44:** 1743-1753.

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(2008) **Pore size distribution in an uncompacted equilibrated ordinary chondrite.** Friedrich J.M., R.J. Macke, D.P. Wignarajah, M.L. Rivers, D.T. Britt, and D.S. Ebel. *Planetary and Space Science*. 56: 895-900. (doi:10.1016/j.pss.2008.02.002)

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(2007) **Micromagnetic coercivity distributions and interactions in chondrules with implications for paleointensities of the early solar system.** Acton, G., Q.-Z. Yin, K. L. Verosub, L. Jovane, A. Roth, B. Jacobsen, and D. S. Ebel. *Journal of Geophysical Research* **112**, B03S90, doi: 10.1029/2006JB004655.

(2007) **The origin of non-porphyritic pyroxene chondrules in UOCs: Liquid solar nebula condensates?** Engler, A., M.E. Varela, G. Kurat, D. Ebel, P. Sylvester. *Icarus* **192**: 248-286.

(2006) **Comet 81P/Wild 2 under a microscope.** Brownlee, D. *et al. Science* 314: 1711-1717.

(2006) **Mineralogy and petrology of comet Wild 2 nucleus samples.** Zolensky, M.E. *et al.* (Stardust Mineralogy/Petrology Preliminary Examination Team) *Science* **314**: 1735-1739.

(2006) **Thermochemistry of sulfide mineral solutions.** Sack, R. O., and D. S. Ebel. In *Sulfides*, ed. D. Vaughan, *Reviews in Mineralogy* **60**: 265-364. Mineralogical Society of America.

(2006) **Chemical processes in CAIs: A mostly CMAS view of melting and crystallization.** Beckett, J., H.C. Connolly, and D.S. Ebel. In *Meteorites and the Early Solar System II,* (D. Lauretta et al., eds.) University of Arizona, Tucson. p. 399-429.

(2006) **Condensation of rocky material in astrophysical environments**. Ebel, D.S. In *Meteorites and the Early Solar System II,* (D. Lauretta et al., eds.) University Arizona, Tucson. p. 253-277.

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(2005) **Spinel-bearing spherules condensed from the Chicxulub impact-vapor plume.** Ebel, D.S. and L. Grossman. *Geology* **33**: 293-296.

(2005) **Origin of high-Ag fahlores from the Galena Mine, Wallace, Idaho, USA**. Sack, R.O., R. Fredericks, L.S. Hardy, and D.S. Ebel. *American Mineralogist* **90**: 1000-1007.

(2004) **Petrology and origin of amoeboid olivine aggregates in CR chondrites**. Weisberg, M.K., H.C. Connolly, Jr., and D.S. Ebel. *Meteoritics and Planetary Science*, **39**: 1741-1753.

(2004) **Chondrule formation and protoplanetary disk heating by current sheets in non-ideal magnetohydrodynamic turbulence**. Joung, M.K.R., M-M. Mac Low, and D.S. Ebel. *Astrophysical Journal*, **606**: 532-541.

(2004) **Cosmic rays, carbon dioxide and climate**. Rahmstorf, S., D. Archer, D.S. Ebel, O. Eugster, J. Jouzel, D. Maraun, Urs Neu, G.A. Schmidt, J. Severinghaus, A.J. Weaver, and J. Zachos. *EOS*, **85**: 38-41. (see also, response and reply, *EOS*, 48: 510-511.

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(2002) **Formation of refractory inclusions by evaporation of condensate precursors.** Grossman, L., D.S. Ebel, and S.B. Simon. *Geochimica et Cosmochimica Acta* **66**: 145-161.

(2001a) **Condensation from supernova gas made of free atoms.**

Ebel, D.S. and L. Grossman. *Geochimica et Cosmochimica Acta* **65**: 469-477.

(2000) **Major element chemical and isotopic compositions of refractory inclusions in C3 chondrites: The separate roles of condensation and evaporation**.
Grossman, L., D.S. Ebel, S.B. Simon, A.M. Davis, F.M. Richter, and N.M. Parsad. G*eochimica et Cosmochimica Acta*, **64**: 2879-2894.

(2000) **Condensation in dust-enriched systems**.
Ebel, D.S. and L. Grossman. *Geochimica et Cosmochimica Acta* **64**: 339-366.

(2000) **Variations on solar condensation: Sources of interstellar dust nuclei**.
Ebel, D.S. *J. Geophysical Res. (Space Physics)* **105**: 10363-10370, part of a special section on *Interstellar Dust and the Heliosphere*.

(2000) **Gibbs energy minimization in gas + liquid + solid systems**.
Ebel, D.S, Mark S. Ghiorso, R.O. Sack, and L. Grossman. *J. Computational Chem.* **21**: 247-256.

(2000) **Complexly zoned Cr-Al spinel found *in situ* in the Allende meteorite**.
S.B. Simon, K.D. McKeegan, D.S. Ebel, and L. Grossman. *Meteor. Planet. Sci.*, **35**: 215-227.

(1997) **Fractional crystallization of sulfide melts as illustrated at Noril'sk and Sudbury**.
Naldrett, A.J., D.S. Ebel, M. Asif, G. Morrison, and C. Moore. *European J. Mineralogy* **9**: 365-377.

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Ebel, D.S. and A.J. Naldrett. *Canadian Journal of Earth Sciences* **34**: 352-365.

(1996) **Fractional crystallization of sulfide ore liquids at high temperatures**.
Ebel, D.S. and A.J. Naldrett. *Economic Geology* **91**: 607-621.

(1996) **Petrogenesis of the flood-basalt sequence at Nori'lsk, north central Siberia**.
Fedorenko, V.A., P.C. Lightfoot, A.J. Naldrett, G.K. Czamanske, C.J. Hawkesworth, J.L. Wooden, and D.S. Ebel. *International Geology Review* **38**: 99-135.

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Ebel, D.S. and R.O. Sack. *Geochimica et Cosmochimica Acta* **58**: 1237-1242.

(1993) **As-Sb exchange energies in tetrahedrite-tennantite fahlores and bournonite-seligmannite solid solutions**. Sack, R.O. and D.S. Ebel. *Mineralogical Magazine* **57**: 635-642.

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Sack, R.O., D.S. Ebel, and M.J. O'Leary. In *Chemical Transport in Metasomatic Processes*. Ed. H.C. Helgeson. *D. Reidel,* Dordrecht, Holland, p. 701-731.

EXTENDED ABSTRACTS

(two pages; find at, e.g., http://www.lpi.usra.edu/meetings/lpsc20*xx*/pdf/*abs#*.pdf)

(2014) **Maximizing chemical and textural data with minimal sample destruction: Computed tomography, wire saws, and electron beams; "Oh, my".** Crapster-Pregont, E. J., and D. S. Ebel. Microscopy and Microanalysis (Supplement) in press. (invited talk)

(2014) **A potential method for identifying minerals in comet samples using Raman spectroscopy on a laser scanning confocal microscope.** White, A. J., and D. S. Ebel. Microscopy and Microanalysis (Supplement) in press.

(2014) **Image analysis of 2D x-ray intensity maps: Element abundances, mineralogy, and modal analysis.** Ebel, D. S., E. J. Crapster-Pregont and J. M. Friedrich. Microscopy and Microanalysis (Supplement) in press.

(2014) **Primordial ice abundance in CV chondrites.** Ebel, D. S., M. K. Weisberg, J. M. Friedrich. *Lunar and Planetary Science XLV*, Abs. #1207 (oral)

(2014) **Element redistribution in metamorphism of CO chondrites: Implications for emerging worlds.** Ebel, D. S., M. K. Weisberg, E. J. Crapster-Pregont. *Lunar and Planetary Science XLV*, Abs. #1207 (oral)

(2014) **Nebular magnetism recorded in the Semarkona meteorite.** Fu, R. R., E. A. Lima, B. P. Weiss, R. J. Harrison, D. S. Ebel, and S. J. Desch. *Lunar and Planetary Science XLV*, Abs. #1420 (oral)

(2014) **Experimental investigation of condensation predictions for dust-enriched systems.** Ustunisik, G., D. S. Ebel, D. Walker, J. S. Boesenberg. *Lunar and Planetary Science XLV*, Abs. #1206 (oral)

(2014) **Nondestructive three-dimensional confocal imaging and SXRF of whole stardust tracks in aerogel.** White, A. J., D. S. Ebel, M. Greenberg. *Lunar and Planetary Science XLV*, Abs. #2292 (poster)

(2014) **Primitive fine-grained matrix in the unequilibrated enstatite chondrites.** Weisberg, M. K., M. E. Zolensky, M. Kimura and D. S. Ebel. *Lunar and Planetary Science XLV*, Abs. #1551 (oral)

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(2014) **Vapor phase evolution during degassing of alkalis in Cl-free and Cl-bearing melts: Experimental insights into chondrule formation.** Ustunisik, G., D. S. Ebel, and H. Nekvasil. *Lunar and Planetary Science XLV*, Abs. #2171 (poster)

(2014) **Microchondrules: Records of multiple heating events in the solar nebula and implications for type II chondrule formation.** Bigolski, J. N., M. K. Weisberg, D. S. Ebel, H. C. Connolly Jr. *Lunar and Planetary Science XLV*, Abs. #1879 (oral)

(2014) **Complementarity of rare earth elements in CO chondrites.** Crapster-Pregont, E. J. and D. S. Ebel. *Lunar and Planetary Science XLV*, Abs. #1379 (poster)

(2014) **Comparison of chondrule and CAI size measured by electron microprobe (2D) and computed tomography (3D).** Goldman, R. T., E. J. Crapster-Pregont, and D. S. Ebel. *Lunar and Planetary Science XLV*, Abs. #2263 (poster)

(2014) **Modal abundances, chemistry, and sizes of clasts in the Semarkona (LL3.0) chondrite by x-ray map analysis.** Lobo, A., S. Wallace, D. S. Ebel. *Lunar and Planetary Science XLV*, Abs. #1423 (poster)

(2014) **Modal abundances and chemistry of clasts in the Renazzo (CR2) chondrite by x-ray map analysis.** Bayron, J. M., I. R. Erb, D. S. Ebel, S. Wallace, H. C. Connolly Jr.

Lunar and Planetary Science XLV, Abs. #1225 (poster)

(2014) **Renewed search for FUN based on Al-Mg systematics in CAIs with LA-MC-ICP-MS.** Wimpenny, J. B., Q.-Z. Yin, J. Zipfel, G. MacPherson, D. S. Ebel, and P. R. Heck. *Lunar and Planetary Science XLV*, Abs. #2235 (oral)

(2014) **Chlorine on the surface of Mercury: Implications for Mercury's surface evolution.** Evans, Larry G., Patrick N. Peplowski, Denton S. Ebel, Timothy J. McCoy, Richard D. Starr, Shoshana Z. Weider, and Sean C. Solomon. *Lunar and Planetary Science XLV*, Abs. #1794 (oral)

(2014) **A Search for Regional Signatures of Space Weathering on Mercury.** Deborah L. Domingue, Peplowski, Patrick N., Larry R. Nittler, Mario D'Amore, Jörn Helbert, David Schriver, Pavel M. Trávníček, Scott L. Murchie, Brett W. Denevi, Faith Vilas, Shoshana Z. Weider, Richard D. Starr, Ellen J. Crapster-Pregont and Denton S. Ebel. *Lunar and Planetary Science XLV*, Abs. #1363 (poster)

(2014) **Unsupervised classification of Mercury's visible-near-infrared reflectance spectra: Comparison with major element compositions.** D'Amore, Mario, Jörn Helbert, Sabrina Ferrari, Alessandro Maturilli, Larry R. Nittler, Deborah L. Domingue, Shoshana Z. Weider, Richard D. Starr, Ellen J. Crapster-Pregont , Denton S. Ebel, Sean C. Solomon. *Lunar and Planetary Science XLV*, Abs. #1073 (poster)

(2013) **Synergistic 3D and 2D imaging of unique extraterrestrial samples for curation, sectioning, and analysis.** Ebel, D. S., J. M. Friedrich, S. W. Wallace, E. J. Crapster-Pregont, and A. J. White. Microscopy and Microanalysis (Supplement S2) **19**: 632-633. (invited talk)

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(2013) **Microchondrules in unequilibrated ordinary chondrites: Insights into chondrule formation environments.** Bigolski, J.N., M.K. Weisberg, H.C. Connolly Jr., and D.S. Ebel. *Lunar and Planetary Science XLIV*, Abs. #2239 (oral)

(2013) **Fractional condensation: Evidence from chemical variations in Ca, Al-rich inclusions in CO chondrites.** Crapster-Pregont, E.J., and D.S. Ebel. *Lunar & Planet. Science XLIV*, Abs. #2112 (oral)

(2013) **Mineral processing by short circuits in protoplanetary disks.** McNally, C.P., A. Hubbard, M.M. Mac Low, D.S. Ebel, and P. D'Alessio. *Lunar and Planetary Science XLIV*, Abs. #2844 (oral)

(2013) **Mapping major element abundances on Mercury's surface with MESSENGER x-ray spectrometer data.** Nittler, L.R., S.Z. Weider, R.D. Starr, E.J. Crapster-Pregont, D.S. Ebel, and S. Solomon. *Lunar and Planetary Science XLIV*, Abs. #2458 (oral)

(2013) **Exploring the role of chlorine on the degassing of alkalis (Na and K): Implications for chondrule formation.** Ustunisik, G., D.S. Ebel, and H. Nekvasil. *Lunar and Planetary Science XLIV*, Abs. #2145 (poster)

(2013) **Experimental confirmation of predicted condensed phase assemblages in dust-enriched systems.** Ustunisik, G., D.S. Ebel, and J.S. Boesenberg. *Lunar Planet. Sci. XLIV*, Abs. #2260 (poster)

(2013) **Sutter's Mill: Using computed tomography to curate scientifically important meteorites.** Wallace, S.W., D.S. Ebel, and M.G. Hill. *Lunar & Planetary Science XLIV*, Abs. #2297 (poster)

(2013) **EL3 chondrites: Primitive nebular materials, not products of asteroidal processing.** Weisberg, M.K., D.S. Ebel, and H.C. Connolly Jr. *Lunar Planetary Sci. XLIV*, Abs. #2871 (oral)

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(2009) **Non-destructive 3D imaging of extraterrestrial materials by synchrotron x-ray micro-tomography (XR-CMT) and laser confocal scanning microscopy (LCSM): Beyond pretty pictures.** Ebel, D.S. and M. Greenberg. *Eos Trans. AGU* 90(22), Jt. Assem. Suppl., Abs. V74A-08.

(2009) **CAI and chondrule sizes and abundances in the CO3 chondrites Kainsaz and Colony.** Ebel D.S., M. Lu, I.R. Erb, and M.K. Weisberg. *Meteoritics Planet. Sci Suppl.* **44**: A66 (Abs. #5306, oral)

(2009) **Nondestructive quantitative analysis of Stardust tracks from 3-dimensional confocal laser microscopy and XRF mapping.** Greenberg, M. and D. S. Ebel. *Meteoritics Planet. Sci Suppl.* **44**: A80 (Abs. #5400, oral)

(2009) **Elemental analysis of X-ray tomographed serial Allende sections.** Friedrich J.M., S. F. Wolf, R. Halabi, and D. S. Ebel. *Meteoritics & Planetary Sci. Suppl.* **44**: A72 (Abs. #5362)

(2009) **^{53}Mn-^{53}Cr evidence for Allende chondrule formation at 4567.6 Ma.** Yin, Q-Z., K. Yamashita, A. Yamakawa, B. Jacobsen, D. S. Ebel, I. D. Hutcheon, and E. Nakamura. *Geochimica et Cosmochimica Acta Suppl.*, **73**: A1484 (Abs. #1891).

(2008) **Evidence for internally generated magnetic fields on the CV chondrite parent planetesimal.** Carporzen L., B.P. Weiss, D.S.Ebel, and L.T. Elkins-Tanton. *JGR* (AGU Abstract, December)

(2008) **Pre- and post-accretionary carbonates in the Renazzo CR chondrite.** DeGregorio B.T., R.M. Stroud, and D.S. Ebel. *Geochimica et Cosmochimica Acta* **72**: A208. (Abstract #1887)

(2008) **Metal-rich olivine aggregates in the Renazzo chondrite**. Weisberg M.K., D.S. Ebel, H.C. Connolly Jr, N.T. Kita, and T. Ushikubo. *Meteoritics & Planet. Sci. Suppl.* **43**: A168 (Abs. #5125).

(2008) **Why do chondrules with volumetric metal/silicate ratios of 1 to 37% aggregate to solar Fe/Si in the Renazzo CR chondrite?**
Ebel D.S. and M.K. Weisberg. *Meteoritics and Planetary Sci. Suppl.* **43**: A40 (Abs. #5118, oral).

(2008) **Abundances and sizes of clast types in the Allende CV3 meteorite: New results from mapping analysis**. Brunner C.E., D.S. Ebel and M.K. Weisberg. *Meteor. Planet. Sci Suppl.* **43**: A28 (Abs. #5303, poster).

(2008) **Nondestructive 3d confocal laser imaging and analysis of stardust track #82 and deconvolution techniques**. Greenberg M. and D.S. Ebel. *Meteor. Planet. Sci Suppl.* **43**: A49 (Abs. #5300).

(2008) **Impact-related preferred 3d orientation of metal grains in L chondrites**. Friedrich J.M., D.P. Wignarajah, S. Chaudhary, M.L. Rivers, C.E. Nehru, and D.S. Ebel. *Meteoritics Planet. Sci Suppl.* **43**: A45 (Abs. #5091).

(2008) **Dynamic compaction of asteroids: Impact-induced preferred 3D orientation of metal grains in L chondrites.** Friedrich, J.M., D.P. Wignarajah, S. Chaudhary, M.L. Rivers, C.E. Nehru, and D.S. Ebel. *Conference: 'Asteroids, Comets, Meteorites',* Abstract #8242.

(2007) **Solid and liquid stability in C-IDP-enriched vapor inside the snow line: Implications for Mercury.** Ebel, D.S. and C.M.O'D. Alexander. *AAS Bulletin* **39**: 412 (DPS Abstract #3.08)

(2007) **A traveling exhibit of Cassini image science.** Burns J.A., M.M. Hedman, M.S. Tiscareno, D Ebel, M. Mac Low, L.E. Lovett, J.K. Burns, N. Schaff, and E.M. Bilson. *AAS Bulletin* **39**: 464 (DPS Abstract 27.07)

(2007) **Paleomagnetic evidence for localized chondrule formation and rapid parent body accretion in the protoplanetary disk.** Ebel, D.S. *Meteoritics Planet. Sci Suppl.* **42**: A38 (Abs. #5326).

(2007) **Petrology of matrix in the Semarkona ordinary chondrite.** Weisberg M.K., D.S. Ebel and H.C. Connolly Jr. *Meteoritics Planet. Sci Suppl.* **42**: A162 (Abs. #5288).

(2007) **Quantitative petrography of L chondrites: 3D morphologic variations with degree of equilibration and shock loading.** Friedrich J.M., M.L. Rivers, C.E. Nehru, and D.S. Ebel *Meteoritics Planet. Sci Suppl.* **42**: A51 (Abs. #5271).

(2007) **Did chondrules form in the nebula?** Alexander C.M.O'D., J.N. Grossman and D.S. Ebel. *Meteoritics Planet. Sci Suppl.* **42**: A12 (Abs. #5134).

(2007) **^{182}Hf-^{182}W chronometry of CAIs and the age of the solar system.** Burkhardt C., T. Kleine, H. Palme, B. Bourdon, J. Zipfel, J. Friedrich and D**.** Ebel. *Meteoritics Planet. Sci Suppl.* **42**: A27 (Abs. #5189).

(2006) **Stardust (Comet 81P/Wild-2) Samples and early solar system processes.** Ebel, D.S. M.K. Weisberg, H.C. Connolly Jr., M. Zolensky, and the Stardust Mineralogy/Petrology Preliminary Examination Subteam. Division of Planetary Sciences of the American Astronomical Society, 2006 meeting, Abstract #888.

(2006) **Meteorite research collaboration, curation, and education in New York City.** Ebel, D.S. and J.S. Boesenberg. *Meteoritics Planet. Sci Suppl.* **41**: A204 (Abs. #9028, 1st Desert Meteorite Workshop, Morocco).

(2006) **Layered chondrules in carbonaceous and ordinary chondrites.** Ebel, D.S. and M.K. Weisberg *Meteoritics Planet. Sci Suppl.* **41**: A48 (Abs. #5352).

(2006) **Variations in lunar opaque phase and grain size: Implications for remote sensing of TiO_2.** Riner, M. A., M. S. Robinson, P. G. Lucey, and D. S. Ebel. *Meteoritics Planet. Sci Suppl.* 41: A149 (Abs. #5339).

(2006) **Sulfide-metal nodules in EH3 chondrites.** Weisberg, M.K., H.C. Connolly, D.S. Ebel, and M. Kimura. *Meteoritics Planet. Sci Suppl.* **41**: A186 (Abs. #5317).

(2006) **Layered matrix in the CV3 NWA 2364 chondrite.** Friedrich, J.M., M.K. Weisberg, D.S. Ebel, and K.P. Jochum. *Meteoritics Planet. Sci Suppl.* **41**: A57 (Abs. #5298).

(2006) **Synchrotron X-ray microtomography of extraterrestrial samples.** Ebel, D.S. and M.L. Rivers American Geophysical Union spring 2006 meeting (invited).

(2006) **High spatial resolution 3D local lambda-tomography of particle tracks and fragmentation in whole aerogel tiles**. Ebel, D.S. and M.L. Rivers. August meeting of SPIE, The International Society for Optical Engineering.

(2006) **Mineralogy and petrology of comet Wild 2 nucleus samples - final results of the preliminary examination team.** Zolensky et al. (45 authors). *Meteor. Planet. Sci Suppl.* **41**. (Abs. #5344).

(2005) **High spatial resolution 3d local tomography of particle tracks and fragmentation in aerogel.** Ebel, D.S. and M.L. Rivers *Meteor. Planet. Sci. Suppl.* **40**: A42 (Abs. #5299).

(2005) **Elemental signatures of nebular and alteration processes in CV, CO, and CR CAIs**. Friedrich, J.M., K.P. Jochum, and D.S. Ebel. *Meteor. Planet. Sci. Suppl.* **40**: A51 (Abs. #5112).

(2005) **Fountain Hills impact melted CB chondrite and thermal history of the CB parent body.** Weisberg, M.K. and D.S. Ebel (Abstract 5228) *Meteor. Planet. Sci. Suppl.* 40: A167.

(2005) **A 3-d tomographic survey of compound chondrules in CR chondrites**. Hylton, S.N., D.S. Ebel, and M.K. Weisberg. *Meteor. Planet. Sci. Suppl.* 40: A71 (Abs. #5305).

(2005) **Heterogeneous Th-U-Pb isotope and elemental systematics in calcium-aluminum-rich inclusions determined by LA-ICPMS**. Jochum, K.P., J.M. Friedrich, D.S. Ebel, and S.J.G. Galer. *Meteor. Planet. Sci. Suppl.* 40: A76 (Abs. #5108).

(2005) **Ti, Al-Rich Ca-pyroxene assemblages in CAIs**. Nehru, C.M., M.K. Weisberg, and D.S. Ebel *Meteor. Planet. Sci. Suppl.* 40: A111 (Abs. #5296)..

(2005) **Refractory trace elements in the solar system's first condensates: Analysis and implications of Zr/Hf and Nb/Ta in CAIs.** Friedrich, J.M., D.S. Ebel, and K.P. Jochum. *230thAnnual Meeting of the American Chemical Society* (Abs. #895089).

(2004) **3D tomographic measurements on Allende volumes - Constraints on the formation**

and accretion of chondrules and matrix. Ebel, D.S., T.W. Schoenbeck, and H. Palme. *Meteoritics Planet. Sci Suppl.* **39**: A33 (Abs. #5153).

(2004) **3D-microtomographic determination of chondrule/matrix ratios in carbonaceous chondrites.** Schoenbeck, T.W. and D.S. Ebel. *Geochim. Cosmochim. Acta Suppl.*, **68**: A765.

(2002) **Origin of enstatite chondrites and implications for the inner planets.** Ebel, D.S. and C.M.O'D. Alexander *12th Ann. Goldschmidt Conf.* (invited), *Geochimica et Cosmochimica Acta Suppl.*, **66**: A205 (Abs. #2335).

(2002) **Model evaporation of FeO-bearing liquids.** Ebel, D.S. *Meteoritics Planet. Sci Suppl.* **37**: A43 (Abs. #5269).

(2002) **Petrologic-tomographic study of metal in the CR chondrites.** Weisberg, M.K., D.S. Ebel, H.C. Connolly, Jr., J.S. Boesenberg, and D. Castellano. *Meteoritics Planet. Sci Suppl.* **37**: A149 (Abs. #5254).

(2001) **Vapor/liquid/solid equilibria when chondrites collide.** Ebel, D.S. *Meteoritics Planet. Sci Suppl.* **36**: A52-A53 (Abs. #5427).

(2001) **Condensation from the plume of an oblique Chicxulub impact.** Ebel, D.S., and L. Grossman. *Meteoritics Planet. Sci Suppl.* **36**: A53 (Abs. #5404).

(2001) **Melilite: A petrogenetic indicator in refractory inclusions**. Ebel, D.S., and L. Grossman. In *Eleventh Annual V.M. Goldschmidt Conference*, Abstract #3299. LPI Contribution No. 1088, Lunar Planet. Institute, Houston (CD-ROM). (Invited)

(2000) **Melilite zoning during partial evaporation of calcium-aluminum-rich inclusion droplets.** Ebel, D.S., L. Grossman. *Meteoritics Planet. Sci Suppl.* **35**: A49-50 (Abs. #5254).

(1998) **Rhodium and palladium partitioning between copper-nickel-pyrrhotite and sulfide liquid**. Ebel, D. S., and A. J. Campbell. *Geol. Soc. Am. Abstracts with Program*, **30A**: 318.

(1998) **Condensation from cosmic gas made of free atoms**. Ebel, D.S. and L. Grossman. *Meteoritics Planet. Sci Suppl.* **33**: A43-44.

(1997) **Effects of pressure and dust enrichment on silicate-liquid stability**. Ebel, D.S. and L. Grossman. *Meteoritics Planet. Sci Suppl.* **32**: A37.

(1996) **Limiting conditions for silicate liquid stability in cosmic gases**. Ebel, D.S. and L. Grossman. *Meteoritics Planet. Sci Suppl.*, **31**: A40-A41.

(1996) **Fractional crystallization of sulfide melts**. Naldrett, A.J. and D.S. Ebel. In *Sixth international symposium on experimental mineralogy, petrology and geochemistry, Terra Abstracts* **8**: 47.

(1994) **Experimental Ni-pyrrhotite and (Fe, Ni, S)-liquid equilibria above 1000°C**. Ebel, D.S. and A.J. Naldrett. *American Geophysical Union, EOS* **75**: 719-720.

(1993) **Experimental determination of the free energy of formation of freibergite fahlore**. Ebel, D.S. and R.O. Sack. *Geological Society of America Abstracts with Program*, **25A**: 96.

(1991) **Ore reserve estimation from tetrahedrite composition**. Ebel, D.S. and R.O. Sack. *Geological Society of America Abs. with Program*, **23A**: 417.

(1988) **Ag-Cu and Sb-As exchange energies in $(Ag,Cu)_{10}(Fe,Zn)_2(As,Sb)_2S_{13}$ sulfosalts**. Ebel, D.S. and R.O. Sack. *EOS* **69**: 528.

OTHER PUBLICATIONS

(2013) Review of book, **Practical Chemical Thermodynamics, for Geoscientists**, by B. Fegley, Jr.
Ebel, D.S. *Meteoritics and Planetary Science* **48**: 712-713.

(2007) Review of book, **Planet Formation**, ed. by H. Klahr and W. Brandner
Ebel, D.S. *Meteoritics and Planetary Science* **42**: 467-468.

(2006) **History of the American Museum of Natural History meteorite collection**
Ebel, D.S. *In*: McCall G.J.H., Bowden A.J., and Howarth R.J. (eds) *The History of Meteoritics and Key Meteorite Collections: Fireballs, Falls and Finds.* Geological Society, London, Special Publications **256**: 267-289 (peer reviewed).

(2006) **Stunt double**. Ebel, D.S. *Natural History*, February 2006, p. 64 (endpaper)
(how AMNH meteorite was used to test Rover tool, aiding decision not to grind meteorite on Mars)

(2004) **New Arthur Ross Hall of Meteorites at the American Museum of Natural History**
Ebel, D.S. and J.S. Boesenberg. *Meteoritics and Planetary Science* **39**: 1761-1762.

(1998) **Meteorite**.
Ebel, D.S. In *McGraw-Hill Encyclopedia of Science and Technology Yearbook*, p. 247-249.

MULTIMEDIA and ON-LINE AUTHORSHIP

(2008) On-line course '*The Solar System*', offered by AMNH Seminars in Science. Co-author with Dr. Neil D. Tyson. (http://www.amnh.org/learn/courses/solarsystem.php)

GRANTS

2012	Co-Investigator, NSF EarthScope education and outreach grant Collaborative Research: Immersive audio-visualization of seismic wave fields in the Earth (with Columbia and Princeton, 1 yr.)
2012	Co-Principal Investigator, NYSTAR grant "Innovation Economy Matching Grant: High Resolution CT Scanner (1 yr.)
2012	Principal Investigator, NASA Cosmochemistry, equipment grant "Support for an Electron Backscatter Diffraction Instrument for Scanning Electron Microscopy of Meteorite and Comet Samples" (1 yr.)
2010	Principal Investigator, NASA Cosmochemistry Program (# NNX10AI42G) "Thermochemical Histories of the Earliest Solar System Solids" (4 yrs).
2010	Co-Principal Investigator, NSF MRI-R2 equipment grant. "Acquisition of a High Resolution CT-Scanner at the American Museum of Natural History" (3 yrs)
2010	Principal Investigator, NASA LARS equipment grant (#NNX10AH06G) "Partial Support for Upgrading a Laser Confocal Scanning Microscope for Non-destructive High-resolution 3D Imaging of Comet Sample Tracks in Aerogel Returned by the Stardust Mission" (1 yr).
2008	Principal Investigator, NASA Cosmochemistry Program (# NNX09AE84G) "Thermochemical and Petrological Exploration of the Earliest Solar System Solids" (1 yr)
2008	Principal Investigator, NASA SRLIDAP grant NNX09AC31G, (3 yrs). "Laser Confocal Microscopy and X-ray Fluorescence Analysis of Grains in Aerogel"

2008	Co-Principal Investigator, NSF Cyber-Enabled Discovery Initiative (Type I) "Combined Global Physical, Chemical, and Mineralogical Models of Protoplanetary Disks" PI: M-M. Mac Low, AMNH. (3 yrs)
2007	Co-Investigator, NASA Planetary Geology and Geophysics Program. "Planetary Impact Ejecta and the Physico-Chemical Evolution of Expansion Plumes: A Multidisciplinary Approach" PI: N. Artemieva, Planetary Science Institute., Tucson. (3 yrs)
2007	Co-Investigator, NASA Laboratory Astrophysics Program. "Far-infrared Spectroscopy of Mineral Particles" PI: R.E. Peale, U. Central Florida. (3 yrs)
2006	Principal Investigator, NASA SRLIDAP grant NNG06GE42G. "Synchrotron X-ray Tomographic 3-dimensional Location of Particles and Tracks in Whole Aerogel Tiles" (2 yrs)
2006	Principal Investigator, NASA Cosmochemistry grant NANG06GD89G. "Thermochemistry and Petrology of Early Solar System Materials" (3 yrs)
2003	Team Lead, NASA Institutional Education/Public Outreach supplement to grant NAG5-12855, "Outreach for Opening a New Hall of Meteorites and Planetary Science at the American Museum of Natural History: Online Guide, Open House, Teachers Institute"
2003	Principal Investigator, NASA Cosmochemistry grant NAG5-12855 "Thermochemistry and Petrology of Early Solar System Materials"
2001-2010	Principal Investigator, over 20 successful Advanced Photon Source synchrotron beamtime proposals for x-ray computer-assisted microtomography (XR-CMT) and x-ray fluorescence analysis (XRF).
1998-2001	Co-Investigator, NASA Cosmochemistry grant NAG5-4476 (PI: L. Grossman, U. Chicago)

AWARDS

2010	Elected Fellow, The Meteoritical Society
1992	Outstanding Graduate Student Award, Dept. of Earth and Atmospheric Sciences, Purdue
1988-1990	David Ross Graduate Fellowship, Purdue University Research Foundation
1982	Dedicated and Faithful Service Award, Dudley House, Harvard College

SOCIETY MEMBERSHIPS

European Association of Geochemistry (EAG), since 2011
Division of Planetary Sciences (DPS), American Astronomical Society (AAS), since 2006
Amateur Astronomers Association of New York, since 2002
National Space Society (NSS), since 2001
The Planetary Society, since 2001
New York Academy of Sciences (NYAS), since 2001
The Meteoritical Society, since 1998 (elected fellow, 2010)
The Geochemical Society, since 1992
American Geophysical Union (AGU), since 1987

Geological Society of America (GSA), since 1986
Mineralogical Society of America (MSA), since 1985
American Association for the Advancement of Science (AAAS), since 1985

INVITED SCIENTIFIC PRESENTATIONS (selected)

June 2014 *Hierarchical accretion, melting by short circuits, and the origin of chondritic planetesimals.* Keynote, cosmochemistry, 2014 Goldschmidt Conference.

26 Aug 2013 *Constraints on Astrophysical Disk Models from Chondritic Meteorites.* Stearns Colloquium, Earth & Environmental Sci. Dept., Wesleyan University, CT.

11 Oct 2013 *Asteroids: Science, Resources, Security.* Scarsdale High School, Galaxy Forum Lecture.

3 May 2012 *Mercury: Formation Hypotheses and MESSENGER Evidence.* University of Washington.

19 Apr 2012 *Interplanetary Dust, Meteorites, and Planets*. Lyceum Society of NYAS.

17 Mar 2012 Keynote, Brown-Vernadsky Symposium (before LPSC).

23 Jan 2012 *The First Solids of the Solar System: Phenomenology and Dynamics*, Dept. of Physics and Astronomy, University of Rochester.

9 Nov 2011 *MESSENGER: Constraints on Mercury's Origin*, 24th MESSENGER Science Team Mtg.

25 Feb 2011 *Gas-Liquid-Solid Equilibria in Protoplanetary Disks: From Primitive Materials to Mercury's Origin*, Dept. of Geosciences, Princeton University.

14 Aug 2010 *Earth, Meteorites, and the Dynamic Solar System*, Montauk Observatory, New York.

19 Nov 2009 *Physical Processes in the Early Solar System: Evidence from Space Rocks*, NYU Physics.

7 July 2009 *Constraints on Dust Processing and Accretion from Comet and Meteorite Petrology*, Gordon Research Conference: Origins of Solar Systems, invited speaker.

9 June 2009 *Meteorites & Comets: Chemical Tracers of the Birth of the Solar System*, LI-American Chemical Society 19th High School Awards Dinner, St. Johns U.

1 May 2009 *Science Return from Stardust and Genesis Missions*, Amateur Astronomers Assoc. of NY.

1 April 2009 *Comet & Meteorite Constraints on Astrophysical Disk Models*, NASA Ames Research Lab.

31 Mar 2009 *Meteorite Constraints on Solar System Models*, U. California, Berkeley.

2 Feb 2009 *Chemical & Isotopic Histories of the Earliest Igneous Rocks ....*, U. Wisconsin, Madison.

26 Feb 2008 *Meteorites: Entry point for Chemistry at AMNH*, Scientific Literacy /Scientific Frontiers Seminar group, Columbia U.

20 Oct 2007 *Questions Raised by Stardust Mission Results*, Astronomical Society of New York.

19 Oct 2007 *Meteorites: Evidence of Early Solar System Accretion*, American Physical Soc. NY sec.

7 June 2007 *Microtomographic, Petrologic and Isotopic Observations of the Accretion Histories of Chondrules*, Invited speaker, Symposium on Antarctic Meteorites, NIPR, Japan.

10 Nov. 2006 *New Discoveries from Microtomography of Meteorites*, U. Chicago.

28 May. 2005 Invited speaker, Symposium for John Wood, Harvard.

23 Feb. 2005 *Spinel Condensates from the Chicxulub Impact Plume*, Arizona State U.

22 Feb. 2005 *Condensation Chemistry of Protoplanetary Disks*, U. Arizona; Lunar Planet. Lab.

23 Oct. 2003 *Science of the Arthur Ross Hall of Meteorites*, Curator Lecture, AMNH

28 Feb. 2003 *Tomography of Meteorites*, Advanced Photon Source, Argonne National Lab

20 Nov. 2002 *First Rocks in the Solar System*, Rutgers University.

19 Aug. 2002 Invited talk, 12th Annual V.M. Goldschmidt Conference.

15 Aug. 2002 Lecture, Institut für Mineralogie und Geochemie, Universität zu Köln.

16 Jan. 2002 *Condensation, Crystallization, and Evaporation of Rocks in Astrophysical Environments*, Carnegie Institution of Washington.

May 2001 Invited talk, 11th Annual V.M. Goldschmidt Conference.

June 1999	Co-convenor, AGU session, *Magmatic Sulfide in the Crust, Mantle, Core.*
Feb. 1999	*Spinel in Spherules at the K/T Boundary*, Geochem. Seminar, U. Chicago
Oct. 1998	Invited talk, International Space Science Institute workshop, "Dust in the Local Interstellar Medium", Bern, Switzerland.

PROFESSIONAL SERVICE

Sep 12-present	Advisory Committee, North East National Ion Microprobe Facility (Woods Hole) (http://www.whoi.edu/page.do?pid=18655)
Nov 2012	Local Organizer, 4th Joint MESSENGER-BepiColombo Meeting, New York 2012. (this meeting was rescheduled to Chicago, April 2013 due to hurricane Sandy)
Mar12-present	Nominating Committee, The Meteoritical Society
Mar 12-present	Curation Informatics subcommittee of NASA CAPTEM. (Curation and Analysis Planning Team for Extraterrestrial Materials)
Jan 12-Apr 13	Program committee, 4th Joint MESSENGER-BepiColombo Science Team Meeting.
2011 - 2013	Co-chair, theme team "Cosmochemistry and Planetary Science", 2013 Goldschmidt Conf.
January 2011	Program committee, 42nd Lunar and Planetary Science Conference, Houston.
2010-2011	Local Organizing Committee, 74th Meteoritical Society mtg., Greenwich, UK 2011.
2009-2010	**Chair, Local Organizing Committee, 73rd Meteoritical Society mtg., New York 2010.**
May 2010	Program committee, 73rd Annual Meteoritical Society Meeting, New York.
January 2010	Program committee, 41st Lunar and Planetary Science Conference, Houston.
January 2009	Program committee, 40th Lunar and Planetary Science Conference, Houston.
2008, 2009	Judge, Nininger Award for best student paper, The Meteoritical Society (2 years).
2007 - 2009	Chair, Audit Committee, The Meteoritical Society.
2006 - present	Participant (E/PO, Geochemistry Team), MESSENGER Science Team meetings.
2003 - present	NASA review panel member and chair service not disclosed (confidentiality agreements).
2002 - present	NSF and NASA proposal review (external).
2003 - present	proposal review, PSC-CUNY grant program.
Aug. 2000	Program committee, 63rd Annual Meteoritical Society Meeting, Chicago.
2000 - present	manuscript review for *Geochimica et Cosmochimica Acta, Computers and Geosciences*, *Mineralogical Magazine*, *Meteoritics and Planetary Science*, *American Mineralogist, National Academies Press, Canadian J. Earth Sci.*, *S. African J. Geology*, *PNAS*, *Chemie der Erde*, and other journals.

EDUCATIONAL SERVICE (selected items, through October, 2011)

Mar - May 2014	Mentor, Annette-Kade graduate fellow G. Budde (U. Münster)
Nov 2013 -	Principal advisor, post-doctoral researcher A. Vorburger (MESSENGER data analysis).
Oct 2013 -	Mentor, research student A. Lobo (Columbia U.)
summer 2013	Co-mentor, summer research intern A. Lobo (image analysis of ordinary chondrites)
summer 2013	Co-mentor, summer research intern J. Bayron (image analysis of CR chondrites)
summer 2013	Co-mentor, summer research intern I. Erb (image analysis of CR chondrites)
summer 2013	Co-mentor, summer research intern R. Goldman (CT of CAIs in CO chondrites)
Apr - Jun 2013	Mentor, Annette-Kade graduate fellow C. Loesche (U. Duisburg-Essen)
13 Jun 2012	*Meteorites, Solar System Chemistry, and MESSENGER at Mercury: An Extended Discussion*. Evening class for the Amateur Astronomers Association of New York.
Aug 2012 -	Principal advisor, AMNH MAT post-doctoral fellow Dr. Gokce Ustunisik (exp. petrology)
Jun 2012 -	Principal advisor, Ph.D. student A. Ansari, Columbia U. (Earth & Environ. Sci.).

summer 2011	Mentor, summer research intern T. Tielebein, LCSM image analysis for Stardust samples.
22 Feb 2012	*First Solids in the Solar System*. Lecture to Fordham chemistry research class.
2011 - present	Faculty, AMNH MAT (Masters of Arts in Teaching) Program in Earth Sciences http://www.amnh.org/education/mat/
Dec 11 - present	Mentor, research volunteer R. Aldoroty, K/Pg boundary geochem. in NJ coastal plain..
2011 - present	Advisor, Ph.D. student J. Bigolski, CUNY (Earth & Environ. Sci.).
Jul 11- present	Mentor, pre-doc intern A. White (B.S., Drexel), LCSM imaging of Stardust samples.
summer 2011	Mentor, summer research intern M. Hill, CT and SEM analysis of CO chondrites.
summer 2011	Mentor, summer research intern J. Bigolski, K/Pg boundary geochem. in NJ coastal plain.
summer 2011	Mentor, summer research intern J. Schoaf, petrology of CR chondrites (St. John's).
Mar 17, 2011	Organizer and host of MESSENGER orbital insertion public event, AMNH.
2010 - present	Principal advisor, **Ph.D. student** E. Crapster-Pregont, Columbia U. (Earth & Environ. Sci.).
Sep 08-Aug 11	Mentor, pre-doc intern M. Greenberg (B.S., Brandeis), LCSM imaging of Stardust tracks.
2008 - 2012	Ph.D. committee member for C. McNally, Columbia U. (Astronomy).
2006 - 2011	Ph.D. committee member for A. Buono, Columbia U. (Earth & Environmental Sci.).
Sep 05-present	AMNH Education/Public Outreach representative, MESSENGER science team.
2001 - present	Many TV, radio and newspaper interviews on meteorites, NASA missions, etc.
Sep 09-Sep 10	Co-mentor, student intern A. Nissinboim (Brooklyn Coll.), astrophys. lab spectroscopy.
Aug 2010	Lecture/tour for teacher training program, AMNH (TRUST successor).
Jul 10-Sep 10	Mentor, pre-doc research, E. Crapster-Pregont, petrology/cosmochemistry (Columbia).
Jun 10-Sep 10	Mentor, intern J. Bigolski (MS), NJ K/T sequence strat. (Lecturer, CUNY Kingsborough).
summer 2010	Mentor, summer research intern I. Erb, petrology of CR chondrites (Wellesley).
summer 2010	Mentor, 'Research Experience for Undergraduates', M. Downen (W. KY U.).
summer 2010	Mentor, summer research intern R. Roberts, mapping chondrites by SEM (CUNY).
May 10-Aug 10	Mentor, pre-doc intern K. Konrad (B.A.), cosmochemistry sample analysis (U. Oregon).
Feb 10-Aug 10	Mentor, intern C-T. Hsieh (M.S., Oregon), chemical sedimentary history of NJ K/T.
Sep 09-Sep 10	Mentor, undergrad intern E. Lewis (U. Chicago), meteorite/mineral spectra web database.
Dec 08-July 10	Mentor, pre-doc intern K. Sherman (Barnard), cosmochemistry sample analysis (U. CO).
Aug 07-Aug 10	Instructor of Record, AMNH teaching program with Lehman College (TRUST successor).
summer 2009	Mentor, student intern S. McKnight (Mt. Holyoke), cosmochemistry sample analysis.
summer 2009	Mentor, high-school intern P. Hein (Manhattan), cosmochemistry sample preparation.
summer 2009	Co-mentor, student intern A. Nissinboim (Brooklyn Coll.), astrophys. lab spectroscopy.
summer 2009	Mentor, student intern S. Ramcharan (Columbia), Stardust sample imaging and S-XRF.
summer 2009	Mentor, 'Research Experience for Undergraduates', K. Konrad (CUNY-Queens).
Sep 08-Jun 09	Mentor, AMNH H.S. Science Research program, M. Lu (Stuyvesant), meteorite petrology.
Sep 08-Jun 09	Mentor, H.S. Science Research program, I. Erb (home school), meteorite petrology.
July 2008	Lectures/tours (4) for 'TRUST' teacher training program, AMNH.
summer 2008	Mentor, high-school interns C. O'Rourke and M. Leventhal.
summer 2008	Mentor, student intern M. Greenberg (Brandeis U.), imaging of Stardust samples
summer 2008	Mentor, 'Research Experience for Undergraduates' K. Leftwich (W. KY U.)
summer 2008	Co-mentor, student intern A. Nissinboim (Brooklyn Coll.), astrophys. lab spectroscopy.
26 May 2008	Mars Phoenix Lander public Q&A event in Rose Center
May 08-Aug 09	**Co-curator, AMNH/Cornell exhibition, *Saturn: Images from the Cassini Mission*.**
February 2009	Co-author with N. deG. Tyson 'Solar System' on-line Seminars in Science course http://www.amnh.org/learn/solar
summer 2007	Mentor, intern M. Greenberg (Brandeis U.), imaging of Stardust samples

summer 2007	Mentor, 'Research Experience for Undergraduates' C. Brunner (W. KY U.)
summer 2007	Mentor, high-school interns G. Lutzky and J. Finkelstein.
2002 - 2007	Ph.D. committee member for J. Boesenberg, Rutgers U. (Geology).
August 2006	Lectures/tours (3) for 'TRUST' teacher training program, AMNH.
Nov 04-Aug 06	Mentor, AMNH **post-doctoral Kalbfleisch fellow**, Dr. Jon Friedrich (now Assoc. Professor of Chemistry, Fordham University, New York)
7-9 July 2006	Invited guest and speaker, First Annual Meteorite Festival, Haviland, Kansas.
July 2006	Lectures/tours (3) for 'TRUST' teacher training program, AMNH.
summer 2006	Mentor, summer interns J. Wittenzellner (Wells College), J. Oram (Oberlin)
summer 2006	Mentor, 'Research Experience for Undergraduates' H. Rodriguez (U. TX El Paso)
July 2005	Lectures/tours (3) for 'TRUST' teacher training program, AMNH.
summer 2005	Mentor, summer H.S. intern A. Bergin
summer 2005	Mentor, 'Research Experience for Undergraduates' J. Bigolski.
summer 2005	Mentor, summer student S. Hylton (currently at SUNY Stony Brook)
April 2005	Appearance in History Channel special, *Meteors: Fire from the Sky*.
31 Mar 2005	Tour and presentations to 'Members Open House', AMNH.
3 Jan 2005	Tour and presentation to AMNH Urban Advantage student group.
2 Nov 2004	Tour and presentation for teacher development workshops (2 groups of 15)
Oct 04-Jun 05	Senior thesis advisor, S. Hylton, MIT (with Dr. T. Grove, Geology)
Aug 2004	Presentation to NASA - SHARP program student group.
July 2004	Lectures/tours (3) for 'TRUST' teacher training program, AMNH.
2 July 2004	Tour and presentation for Grand Ronde student interns.
1 July 2004	Tour and presentation for summer Saltz cart student intern hall explainers.
4-6 Apr 2004	K-6, Middle, High School, and public lectures, Barrow AK.
summer 2004	Mentor, 'Research Experience for Undergraduates' S. Baughman and S. Hylton
Oct 03 - Jun 04	Mentor, AMNH 'Inside View' high school intern J. Laverde
Jan - Mar 2004	Mentor, Annette-Kade graduate fellow T. Shoenbeck (U. Cologne)
Jan 24-25 2004	Conducted institute for ~40 teachers at AMNH (see grants, above)
9 Jan. 2004	Lecture, Westchester Amateur Astronomers Assoc.
3 Oct. 2003	Lecture, Amateur Astronomers Assoc. of New York
2002 - 2003	**Lead Curator, new Arthur Ross Hall of Meteorites, AMNH.**
summer 2003	Mentor, 'Research Experience for Undergraduates' student N. Costello
Sep-Oct 2003	Mentor, Ph.D. visiting scholar A. Engler, U. Vienna
summer 2002	Mentor, CUNY student in "Precollege Science Collaborative Program"
summer 2002	Mentor, college intern J. Murray (Colgate U.)
2001 - 2003	Mentor, high school intern J. Hertz (Columbia Prep., Columbia '07)

MUSEUM COMMITTEES

Sep 12 - present	AAFC Working Group for Postdoctoral Fellows
Sep 12 - present	Vice-chair, Senate of the Scientific Staff of the AMNH
Sep 12 - present	Appointments and Promotions Committee of the Senate of the Scientific Staff, AMNH
Sep 11 - Sep 13	Academic Affairs and Fellowships Committee of the RGGS
Sep 10 - Sep 12	Executive Committee of the Senate of the Scientific Staff, AMNH
Sep 10 - present	Chair, Science Support Committee of the Senate of the Scientific Staff, AMNH
Sep 10 - present	Finance and Compensation Committee of the Senate of the Scientific Staff, AMNH
Sep 08 - Sep 10	Appointments and Promotions Committee of the Senate of the Scientific Staff, AMNH

Sep 07 - Sep 10	Microscopy & Imaging Facility Committee of the Senate of the Scientific Staff, AMNH
Sep 07 - Sep 10	Exhibitions Review Committee of the Senate of the Scientific Staff, AMNH
Sep 04 - Sep 10	Information Technology Committee of the Senate of the Scientific Staff, AMNH
Spring 2004	Astrophysics Curatorial Search Committee, AMNH
Jan 02 - Jul 08	Chair, Shop Advisory Committee of the Senate of the Scientific Staff, AMNH
Sep 01 - Jan 02	Shop Advisory Committee of the Senate of the Scientific Staff, AMNH

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