

Andrew J. Campbell

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Education

Ph.D., Geophysics, University of Chicago, 1993

B.S., Geophysics, California Institute of Technology, 1988

Professional Positions

- 2023-present Director, SEES (Synchrotron Earth and Environmental Science)
- 2022-present Chair, Department of the Geophysical Sciences, University of Chicago
- 2017-present Professor, Department of the Geophysical Sciences, University of Chicago
- 2019-2021 Deputy Dean, Physical Sciences Division, University of Chicago
- 2010-2017 Associate Professor, Department of the Geophysical Sciences, University of Chicago
- 2005-2010 Assistant Professor, Department of Geology, University of Maryland
- 1998-2005 Senior Research Associate / Research Scientist / Research Associate, Department of the Geophysical Sciences, University of Chicago
- 1995-1997 Senior Development Engineer, GE Superabrasives, General Electric Company
- 1993-1995 Postdoctoral Research Fellow, Geophysical Laboratory, Carnegie Institution of Washington
- 1988-1993 Research Assistant / Teaching Assistant, Department of the Geophysical Sciences, University of Chicago

Awards and Honors

Faculty Award for Excellence in Graduate Teaching and Mentoring, 2014-2015.

Fellow of the Mineralogical Society of America, elected 2013.

CAREER Award, National Science Foundation, 2009-2014.

Distinguished Assistant Professor Award, College of Computer, Mathematical, and Physical Sciences, University of Maryland, 2008.

Carnegie Fellowship, Carnegie Institution of Washington, 1993-1995.

McCormick Fellowship, University of Chicago, 1988-1991.

Professional Service (selected)

PI and Director, SEES (Synchrotron Earth and Environmental Science) 2023-present.

Executive Committee, Consortium for Material Properties Research in the Earth Sciences (COMPRES), Chair 2018-2021; member 2022-2023.

Synchrotron Geoscience Steering Committee (PI), 2021-2022.

HPCAT Review Panel Member, Advanced Photon Source, Argonne National Laboratory, 2013; 2022.

Grant Panel Member, various federal agency programs, 2008-2021.

President, Mineral and Rock Physics, American Geophysical Union, 2017-2019.

President-elect, 2015-2017.

Associate Editor, *Geochimica et Cosmochimica Acta*, 2016-2019.

MSA Award Committee, Mineralogical Society of America, 2017-2019.

Mineralogy–Petrology Grant Committee, Mineralogical Society of America, 2015-2018.

Facilities Committee, COMPRES, member 2008-2016; Chair 2011-2015.

Chair of Site Review Team for COMPRES facilities at NSLS-II, 2015.

Program Committee, COMPRES Annual Meeting, 2011; 2013 (Chair); 2014.

COMPRES Distinguished Lecturer, 2011-2012.

Panel Member, Powder / Single Crystal Crystallography Panel, National Synchrotron Light Source, Brookhaven National Laboratory, 2007-2011.

Council member, Geological Society of Washington, 2008-2009.

NASA Genesis Mission Science Team, 1999-2004.

Advising

Postdoctoral Scholars

Cara Vennari, 2019-2021 (NSF Postdoctoral Fellow). Now at Livermore Natl. Lab.

Daniel Reaman, 2011-2013. Now at U.S. Naval Observatory.

Graduate Students

Emma Stoutenburg, Ph.D. advisor, 2021-present.

Kellie Swadba, Ph.D. advisor, 2018-present.

Nigel Brauser, Ph.D. advisor, 2016-present.

Anne Davis, Ph.D. advisor, 2016-2021. Thesis: “The chemical and physical properties of

carbon-bearing phases in the deep Earth.” Now postdoc at University of Oslo.

Claire Zurkowski, Ph.D. advisor, 2016-2021. Thesis: “Crystallography and phase relations of iron sulfides at Earth and planetary core conditions.” Now Postdoc at Livermore National Lab.

Elizabeth Thompson, Ph.D. advisor, 2013-2018. Thesis: “Mineral physics of hydrogen-bearing phases in the deep Earth.” Now Assistant Professor, Sewanee: The University of the South.

Bethany Chidester, Ph.D. advisor, 2012-2017. Thesis: “The distribution of heat-producing radioactive elements in the deep Earth.” Now Staff Scientist at Los Alamos Natl. Lab.

Rebecca Fischer, Ph.D. advisor, 2009-2015. Thesis: “Earth’s accretion, core formation, and core composition.” Now Assistant Professor, Earth and Planetary Sciences, Harvard University.

Gregory Shofner, Ph.D. advisor, 2007-2011. Thesis: “High pressure redox geochemistry of tungsten in metal–silicate systems: Implications for core formation in the Earth.”

Noah Miller, M.S. advisor, 2006-2009. Thesis: “Melting and phase relations in iron-silicon alloys with applications to the Earth’s core.” Now at Goodrich.

Undergraduates

Abigail Case (Physics major), 2021-2023. Senior thesis.

Bianca Pol (Physics major), 2021-2022.

Fiona Edwardson (Geophysical Sciences major), 2021-2022.

Charlotte Ring (Geophysical Sciences major), 2017-2019. Senior thesis.

Maria Pia Ramos (Environmental Sciences major), 2017-2018.

Billie Males (Geophysical Sciences major), 2017-2018.

Claire Doody (Geophysical Sciences major), 2015-2018. Senior thesis.

Sabrina Tecklenburg (Geophysical Sciences major), 2016-2017. Senior thesis.

Matthew Brennan (Geophysical Sciences and Environmental Sciences major), 2015-2017. Senior thesis.

Olivia Pardo (Geophysical Sciences major), 2015-2017. Senior thesis.

Hannah Bausch (Geophysical Sciences major), 2015-2017.

Andrew Mattillion (Physics major), 2014-2015.

Brissa Renovato (Geophysical Sciences and Statistics major), 2013-2015.

Jacob Britz (Geophysical Sciences and Chemistry major), 2013-2015. Senior thesis.

Gregory Myers (Geophysical Sciences major), 2012-2015.

Maria Valdes (B.S. in Geophysical Sciences), 2011-2012.

Gwen Gage (Geophysical Sciences and Russian Studies major), 2011-2013.

Gerasimos Michalitsianos (Geology major), 2010.
Aleeza Harburger (Geology major, University of Pittsburgh), 2010.
Katherine Watter (Geology major), 2010.
Sarah Saslow (Chemistry major), 2009-2010. Senior thesis.
James Deane (Geology major), 2009-2010. Senior thesis.
Tess Van Orden (Geology major), 2008-2010.
Caroline Harbitz (Physics major), 2008-2009. Senior thesis.
Nina Wernecke (Geology major), 2008-2009. Senior thesis.
Rebecca Fischer (Earth and Planetary Sciences major, Northwestern University), 2008.
Thomas Tamarkin (Chemical Engineering major), 2007-2008.
Oluchi Ofoha (Physics major), 2007-2008.
Graham Taylor (Eleanor Roosevelt H. S. Senior), 2006-2007.
Helen Nguyen (Geology major), 2006-2007. Senior thesis.
Robert Thomas (Geology major). Laboratory research, 2006-2007. Senior thesis.
Genna Davidson (College Park Scholars / Earth, Life & Time), 2006.

Teaching

GEOS 13100 Physical Geology: 2011, 2012, 2013, 2014, 2015, 2016
GEOS 21000/31000 Mineralogy: 2017, 2018, 2019, 2020, 2021
GEOS 21005/31005 Mineral Science: 2012, 2016, 2020
GEOS 21200/31200 Physics of the Earth: 2014
GEOS 21400/31400 Thermodynamics and Phase Change: 2013, 2017, 2018, 2021, 2023
GEOS 31500 Mineral Physics: 2015
GEOL 212 Planetary Geology: 2007, 2008, 2009
GEOL 322 Mineralogy: 2005, 2006, 2007, 2008, 2009
GEOL 394 Research Problems in Geology: 2006, 2007, 2008, 2009, 2010
GEOL 622 Mineralogy of the Rock-Forming Silicates: 2006, 2008, 2010
GEOL 789N Mineral Physics: 2007

Departmental and University Service

Fellow, Faculty Advancement Network, 2022-2023.
Graduate Counselor, 2019-2022 (Chair).
Center for Advanced Radiation Sources (CARS) Appointments Committee, 2016-present.
Department Chair Selection Committee, 2012; 2015 (Chair); 2021; 2022 (Chair).

Curriculum Committee, 2014-2020.
Appointments Committee, 2015-2018; 2020. Chair, 2017-2018.
Director, Graduate Fellowship Workshop program, 2017-2019.
Colloquium Committee, 2017-2018.
Graduate Recruitment Committee, Physical Sciences Division, 2015-2017.
Diversity Committee, Physical Sciences Division, 2014-2017.
Graduate Fellowship workshop advisory committee, Physical Sciences Division, 2015-2016.
Faculty Award for Excellence in Graduate Teaching and Mentoring Selection Committee, 2016.
Chamberlin Fellowship Committee, 2010-2011; 2015-2016 (Chair).
GradUCon panel member, 2013.
Graduate Application Committee (Chair), 2013.
Disciplinary Panel, Physical Sciences Division, 2012.
Promotions Committee, 2011-2012.
Search Committee for Geology Department chairman, 2010.
CAREER Award Proposal Workshop, hosted by College of Engineering, 2010.
Discussion panel member.
Wylie Fellowship Selection Committee, 2010.
Geophysics Planning Group (Chair), 2007-2008.
X-ray Diffraction Facilities Committee, 2006.
Nuclear Fuel Cycle Hiring Directions Committee, 2006.
Graduate Committee, 2006-2010.

Publications (reprints and preprints available at <http://geosci.uchicago.edu/~campbell>)

Davis A. H., Chidester B. A., Thompson E. C., Greenberg E., Prakapenka V. B., and Campbell A. J. (submitted) Carbonate-metal reactions in the lower mantle.

Swadba K., Davis A. H., Zurkowski C. C., Chariton S., Prakapenka V. B., and Campbell A. J. (submitted) Disproportionation in almandine-pyrope garnet from 25 to 65 GPa.

Brauser N. M., Chidester B. A., Greenberg E., Prakapenka V. B., and Campbell A. J. (submitted) Experimental Thermal Equation of State of RbBr.

Davis A. H., Solomotova N. V., Caracas R., and Campbell A. J. (2023) Carbon Storage in Earth's Deep Interior Implied by Carbonate-Silicate-Iron Melt Miscibility. *Geochemistry, Geophysics, Geosystems*, 24, e2023GC010896. <https://doi.org/10.1029/2023GC010896>

Thompson E. C., Campbell A. J., and Tsuchiya J. (2022) Calculated elasticity of Al-bearing phase D. *Minerals* 12, 922. <https://doi.org/10.3390/min12080922>

Zurkowski C. C., Lavina B., Case A. E., Brauser N. B., Davis A. H., Chariton S., Tkachev S., Greenberg E., Prakapenka V. B., and Campbell A. J. (in press) Fe₃S₂ identified as a host for sulfur in Earth and planetary cores. *Earth Planet. Sci. Lett.* 593, 117650. <https://doi.org/10.1016/j.epsl.2022.117650>

Zurkowski C. C., Lavina B., Brauser N. M., Davis A. H., Chariton S., Tkachev S., Greenberg E., Prakapenka V. B., and Campbell A. J. (2022) Pressure-induced C23–C37 transition and compression behavior of orthorhombic Fe₂S to Earth's core pressures and high temperatures. *Am. Mineral.* <https://doi.org/10.2138/am-2022-8187>

Zurkowski C. C., Lavina B., Chariton S., Prakapenka V. B., and Campbell A. J. (2022) Stability of Fe₂S and Fe₁₂S₇ to 125 GPa: Implications for S-rich planetary cores. *Geochem. Persp. Lett.* 21, 47-52. <https://doi.org/10.7185/geochemlet.2217>

Zurkowski C. C., Lavina B., Chariton S., Tkachev S., Prakapenka V. B., and Campbell A. J. (2022) The crystal structure of Fe₂S at 90 GPa based on single-crystal X-ray diffraction techniques. *Am. Mineral.*, 107, 739-743. <https://doi.org/10.2138/am-2022-7973>

Davis A. H., Solomatova N., Campbell A. J., and Caracas R. (2022) The speciation and coordination of a deep Earth carbonate-silicate-metal melt. *J. Geophys. Res.*, 127, e2021JB023314. <https://doi.org/10.1029/2021JB023314>

Chidester B. A., Lock S. J., Rahman Z., Richter K., and Campbell A. J. (2022) The lithophile element budget of Earth's core. *Geochem. Geophys. Geosys.*, 23, e2021GC009986. <https://doi.org/10.1029/2021GC009986>

Chidester B. A., Thompson E. C., Fischer R. A., Heinz D. L., Prakapenka V. B., Meng Y., and Campbell A. J. (2021) An experimental thermal equation of state of B2-KCl. *Phys. Rev. B.*, 104, 094107. <https://doi.org/10.1103/PhysRevB.104.094107>

Pravdivtseva O., Varela M. E., Meshik A., Campbell A. J., Saavedra M., and Topa D. (2021) Neutron-capture ¹²⁸Xe and ¹²⁹Xe in the San Juan mass of the Campo del Cielo IAB iron meteorite: Evidence for a high fluence of thermalized neutrons. *Meteorit. Planet. Sci.*, doi: 10.1111/maps.13708.

Thompson, E. C., Campbell, A. J., and Tsuchiya J. (2021) Elastic properties of the pyrite-type FeOOH–AlOOH system from first principles calculations. *Geochem. Geophys. Geosys.*, 22, e2021GC009703. <https://doi.org/10.1029/2021GC009703>.

Zurkowski C. C., Lavina B., Chariton S., Tkachev S., Prakapenka V. B. and Campbell A. J. (2020) The novel high-pressure/high-temperature compound Co₁₂P₇ determined from synchrotron data. *Acta Cryst. E*, <https://doi.org/10.1107/S2056989020012657>.

Thompson, E. C., Davis A. H., Brauser N. B., Liu Z., Prakapenka V. B., and Campbell A. J. (2020) Phase transitions in ε-FeOOH at high pressure and ambient temperature. *Am. Mineral.*, <https://doi.org/10.2138/am-2020-7468>.

Fischer R. A., Campbell A. J., Chidester B. A., Reaman D. M., Thompson E. C., Pigott J. S., Prakapenka V. B., and Smith J. S. (2018) Equations of state and phase boundary for

stishovite and CaCl₂-type SiO₂. *Am. Mineral.*, *103*, 792-802.

Thompson E. C., Davis A. H., Bi W., Zhao J., Arp E. E., Zhang D., Greenberg E., Prakapenka V. B., and Campbell A. J. (2018) High-pressure geophysical properties of fcc phase FeH_x. *Geochem. Geophys. Geosys.*, *19*, doi: 10.1002/2017GC007168.

Thompson E. C., Campbell A. J., and Tsuchiya J. (2017) Elasticity of ε-FeOOH: Seismic implications for Earth's lower mantle. *J. Geophys. Res.*, *122*, 5038-5049.

Chidester B. A., Rahman Z., Righter K., and Campbell A. J. (2017) Metal-silicate partitioning of U: Implications for heat budget of the core and evidence for reduced U in the mantle. *Earth Planet. Sci. Lett.*, *199*, 1-12.

Fischer R. A., Campbell A. J., and Ciesla F. (2017) Sensitivities of Earth's core and mantle compositions to accretion and differentiation processes. *Geochim. Cosmochim. Acta*, *458*, 252-262.

Thompson E. C., Chidester B. A., Fischer R. A., Myers G. I., Heinz D. L., Prakapenka V. B., and Campbell A. J. (2016) Equation of state of pyrite to 85 GPa and 2400 K. *Am. Mineral.*, *101*, 1046-1051.

Campbell A. J. (2016) Phase diagrams and thermodynamics of core materials. In "*Deep Earth: Physics and Chemistry of the Lower Mantle and Core*," eds. Terasaki H. and Fischer R. A. AGU Monograph Series, *217*, 191-199.

Thompson E. C., Campbell A. J., and Liu Z. (2016) In-situ infrared spectroscopic studies of hydroxyl in amphiboles at high pressure. *Am. Mineral.*, *101*, 706-712.

Shofner G. A., Campbell A. J., Danielson L. R., Righter K., Fischer R. A., Wang Y., and Prakapenka V. B. (2016) The W-WO₂ oxygen fugacity buffer (WWO) at high pressure and temperature: Implications for *f*O₂ buffering and metal-silicate partitioning. *Am. Mineral.*, *101*, 211-221.

Fischer R. A. and Campbell A. J. (2015) The axial ratio of hcp Fe and Fe-Ni-Si alloys to the conditions of Earth's inner core. *Geophys. Res. Lett.*, *100*, 2718-2724.

Fischer R. A., Nakajima Y., Campbell A. J., Frost D. J., Harries D., Langenhorst F., Miyajima N., Pollok K., and Rubie D. C. (2015) High pressure metal-silicate partitioning of Ni, Co, V, Cr, Si, and O. *Geochim. Cosmochim. Acta*, *167*, 177-194.

Fedkin A. V., Grossman L., Humayun M., Simon S. B., and Campbell A. J. (2015) Condensates from vapor made by impacts between metal-, silicate-rich bodies: Comparison with metal and chondrules in CB chondrites. *Geochim. Cosmochim. Acta*, *164*, 236-261.

Fischer R. A., Campbell A. J., Caracas R., Reaman D. M., Heinz D. L., Dera P., and Prakapenka V. B. (2014) Equations of state in the Fe-FeSi system at high pressures and temperatures. *J. Geophys. Res.*, *119*, 2810-2827.

Fischer R. A., Campbell A. J., Reaman D. M., Miller N. A., Heinz D. L., Dera P., and Prakapenka V. B. (2013) Phase relations in the Fe-FeSi system at high pressures and

temperatures. *Earth Planet. Sci. Lett.*, 373, 54-64.

Fischer R. A., Campbell A. J., Caracas R., Reaman D. M., Dera P., and Prakapenka V. B. (2012) Equation of state and phase diagram of Fe-16Si alloy as a candidate component of Earth's core. *Earth Planet. Sci. Lett.*, 357-358, 268-276.

Fischer R. A., Campbell A. J., Lord O. T., Shofner G. A., Dera P., and Prakapenka V. B. (2011) Phase transition and metallization of FeO at high pressures and temperatures. *Geophys. Res. Lett.*, 38, L24301.

Fischer R. A., Campbell A. J., Shofner G. A., Lord O. T., Dera P., and Prakapenka V. B. (2011) Equation of state and phase diagram of FeO. *Earth Planet. Sci. Lett.*, 304, 496-502.

Burnett D. S. and Genesis Science Team (2011) Solar composition from the Genesis Discovery Mission. *Proc. Nat. Acad. Sci.*, 108, 19147-19151.

Fischer R. A. and Campbell A. J. (2010) High pressure melting of wüstite. *Am. Mineral.*, 95, 1473-1477.

Campbell A. J., Danielson L., Righter K., Seagle C. T., Wang Y., and Prakapenka V. B. (2009) High pressure effects on the iron-iron oxide and nickel-nickel oxide oxygen fugacity buffers. *Earth Planet. Sci. Lett.*, 286, 556-564.

Lauretta D. S., Goreva J. S., Hill D. H., Killgore M., LaBlue A. R., Campbell A. J., Greenwood R. C., Verchovsky A. B., and Franchi I. A. (2009) The Fountain Hills unique CB chondrite: Insights into thermal processes on the CB parent body. *Meteorit. Planet. Sci.*, 44, 823-838.

Righter K., Humayun M., Campbell A. J., Danielson L., Hill D., and Drake M. J. (2008) Experimental studies of metal-silicate partitioning of Sb: Implications for the terrestrial and lunar mantles. *Geochim. Cosmochim. Acta*, 73, 1487-1504.

Chabot N. L., Campbell A. J., McDonough W. F., Draper D. S., Agee C. B., Humayun M., Watson H. C., Cottrell E., and Saslow S. A. (2008) The Fe-C system at 5 GPa and implications for Earth's Core. *Geochim. Cosmochim. Acta*, 72, 4146-4158.

Ebel D. S., Weisberg M. K., Hertz J. and Campbell A. J. (2008) Shape, metal abundance, chemistry and origin of chondrules in the Renazzo (CR) chondrite. *Meteorit. Planet. Sci.*, 43, 1725-1740.

Campbell A. J. (2008) Measurement of temperature distributions across laser-heated spots by multispectral imaging radiometry. *Rev. Sci. Instrum.*, 79, 015108.

Mao W. L., Campbell A. J., Prakapenka V. B., Hemley R. J. and Mao H.-K. (2007) Effect of iron on the properties of post-perovskite silicate. In *Post-perovskite: The Last Mantle Phase Transition*, eds. K. Hirose, J. Brodholt, T. Lay, D. Yuen. American Geophysical Union Monograph Series, Volume 174. pp. 37-46.

Seagle C. S., Heinz D. L., Campbell A. J., Prakapenka V. B., and Wanless S. T. (2008) Melting and thermal expansion in the Fe – FeO system at high pressure. *Earth Planet. Sci. Lett.*, 265, 655-665.

- Campbell A. J., Seagle C. S., Heinz D. L., Shen G., and Prakapenka V. B. (2007) Partial melting in the iron-sulfur system at high pressure: A synchrotron x-ray diffraction study. *Phys. Earth Planet. Int.*, 162, 119-128.
- Seagle C. T., Campbell A. J., Heinz D. L., Shen G., and Prakapenka V. (2006) Thermal equation of state of Fe₃S and implications for sulfur in the Earth's core. *J. Geophys. Res.*, 111, B06209, doi:10.1029/2005JB004091.
- Mao W. L., Campbell A. J., Shen G., and Heinz D. L. (2006) Phase relations of Fe-Ni alloys at high pressure and temperature. *Phys. Earth Planet. Int.*, 155, 146-150.
- Rushmer T., Petford N., Humayun M., and Campbell A. J. (2005) Fe-liquid segregation in deforming planetesimals: Coupling core forming compositions with transport phenomena. *Earth Planet. Sci. Lett.*, 239, 185-202.
- Chabot N. L., Campbell A. J., Jones J. H., Humayun M., and Lauer H. V. (2005) The influence of carbon on partitioning behavior during planetary evolution. *Geochim. Cosmochim. Acta*, 70, 1322-1335.
- Campbell A. J. and Humayun M. (2005) Compositions of group IVB iron meteorites and their parent melt. *Geochim. Cosmochim. Acta*, 69, 4733-4744.
- Campbell A. J., Humayun M., and Weisberg M. K. (2005) Compositions of unzoned and zoned metal in the CB₆ chondrites HH 237 and QUE 94627. *Meteorit. Planet. Sci.*, 40, 1131-1148.
- Campbell A. J., Zanda B., Perron C., Meibom A., and Petaev M. I. (2005) Origin and thermal history of Fe-Ni metal in primitive chondrites. In *Chondrites and the Protoplanetary Disk*, eds. A. N. Krot, E. R. D. Scott, and B. Reipurth. Astronomical Society of the Pacific Conference Series, Volume 341. pp. 407-431.
- Mao W. L., Meng Y., Shen G., Prakapenka V. B., Campbell A. J., Heinz D. L., Shu J., Caracas R., Cohen R. E., Fei Y., Hemley R. J. and Mao H.-K. (2005) Iron-rich silicates in the Earth's D" layer. *Proc. Natl. Acad. Sci.*, 102, 9751-9753.
- Righter K., Campbell A. J., and Humayun M. (2005) Diffusion of trace elements in FeNi metal: Application to zoned metal grains in chondrites. *Geochim. Cosmochim. Acta*, 69, 3145-3158.
- Mao W. L., Shen G., Prakapenka V. B., Meng Y., Campbell A. J., Heinz D. L., Shu J., Hemley R. J. and Mao H.-K. (2004) Ferromagnesian post-perovskite silicates in the D" layer of the Earth. *Proc. Natl. Acad. Sci.*, 101, 15867-15869.
- Campbell A. J. and Humayun M. (2004) Formation of metal in the CH chondrites ALH 85085 and PCA 91467. *Geochim. Cosmochim. Acta*, 68, 3409-3422.
- Puchtel I. S., Humayun M., Campbell A. J., Sproule R. A. and Leshner C. M. (2004) Platinum group element geochemistry of komatiites from the Alexo and Pyke Hill area, Ontario, Canada. *Geochim. Cosmochim. Acta*, 68, 1361-1383.
- Righter K., Campbell A. J., Humayun M., and Hervig R. L. (2004) Partitioning of Ru, Rh,

Pd, Re, Ir, and Au between Cr-bearing spinel, olivine, pyroxene, and silicate melts.

Geochim. Cosmochim. Acta, 68, 867-880.

Campbell A. J., Simon S. B., Humayun M., and Grossman L. (2003) Chemical evolution of metal in refractory inclusions in CV3 chondrites. *Geochim. Cosmochim. Acta*, 67, 3119-3134.

Jurewicz A.J.G., Burnett D.S., Wiens R.C., Friedmann T.A., Hays C.C., Hohlfelder R.J., Nishiizumi K., Stone J.A., Woolum D.S., Becker R., Butterworth A.L., Campbell A.J., Ebihara M., Franchi I.A., Heber V., Hohenberg C.M., Humayun M., McKeegan K.D., McNamara K., Meshik A., Pepin R.O., Schlutter D., and Wieler R. (2003) Overview of the Genesis solar-wind collector materials. *Spa. Sci. Rev.*, 105, 535-560.

Campbell A. J. and Humayun M. (2003) Formation of metal in GRO 95551 and comparison to ordinary chondrites. *Geochim. Cosmochim. Acta*, 67, 2481-2495.

Chabot N. L., Campbell A. J., Jones J. H., Humayun M. and Agee C. B. (2003) An experimental test of Henry's Law in solid metal-liquid metal systems with implications for iron meteorites. *Meteorit. Planet. Sci.*, 38, 181-196.

Lin J. F., Campbell A. J., Heinz D. L. and Shen G. (2003) Static compression of iron-silicon alloys: Implications for silicon in the Earth's core. *J. Geophys. Res.*, 108, 2045.

Lin J.-F., Heinz D. L., Campbell A. J., Devine J. M., Mao W., and Shen G. (2002) Iron-nickel alloy in the Earth's core. *Geophys. Res. Lett.*, 29, 10.1029/2002GL015089.

Humayun M. and Campbell A. J. (2002) The duration of ordinary chondrite metamorphism inferred from tungsten microdistribution in metal. *Earth Planet. Sci. Lett.*, 198, 228-243.

Lin J.-F., Heinz D. L., Campbell A. J., Devine J. M., and Shen G. (2002) Iron-silicon alloy in the Earth's core? *Science*, 925, 313-315.

Campbell A. J., Humayun M., and Weisberg M. K. (2002) Siderophile element constraints on the formation of metal in the metal-rich chondrites Bencubbin, Gujba, and Weatherford. *Geochim. Cosmochim. Acta*, 66, 631-644.

Campbell A. J., Humayun M., Meibom A., Krot A. N., and Keil K. (2001) Origin of zoned metal grains in the QUE94411 chondrite. *Geochim. Cosmochim. Acta*, 65, 163-180.

Campbell A. J. and Humayun M. (1999) Trace element microanalysis in iron meteorites by laser ablation ICPMS. *Anal. Chem.*, 71, 939-946.

Yoo C. S., Campbell A. J., Mao H. K., and Hemley R. J. (1997) Detecting phases of iron – response. *Science*, 275, 96.

Yoo C. S., Soderlind P., Moriarty J. A., Akella J., and Campbell A. J. (1996) Dhcp as a new ϵ' phase of iron at high pressures and temperatures, *Phys. Lett. A*, 214, 65-70.

Peiris S. M., Sweeney J. S., Campbell A. J., and Heinz D. L. (1996) Pressure-induced amorphization of covellite, CuS. *J. Chem. Phys.*, 104, 11-16.

Yoo C. S., Akella J., Campbell A. J., Mao H. K., and Hemley R. J. (1995) Phase diagram of iron by in situ x-ray diffraction: Implications for the Earth's core. *Science*, 270,

1473-1475.

Campbell A. J. and Heinz D. L. (1994) High-pressure acoustic wave velocities and equations of state of the alkali chlorides. *J. Geophys. Res.*, *99*, 11765-11774.

Peiris S., Campbell A. J., and Heinz D. L. (1994) Equation of state of MgS to 50 GPa. *J. Phys. Chem. Solids*, *55*, 413-419.

Campbell A. J. and Heinz D. L. (1993) An amorphous phase on the anorthite Hugoniot. *Geophys. Res. Lett.*, *20*, 237-240.

Campbell A. J. and Heinz D. L. (1993) Equation of state and high pressure phase transition of NiS in the NiAs structure. *J. Phys. Chem. Solids*, *54*, 5-7.

Campbell A. J. and Heinz D. L. (1992) A high pressure test of Birch's law. *Science*, *257*, 66-68.

Campbell A. J., Heinz D. L., and Davis A. M. (1992) Material transport in laser-heated diamond anvil cell melting experiments. *Geophys. Res. Lett.*, *19*, 1061-1064.

Zhou Y., Campbell A. J., and Heinz D. L. (1991) Equations of state and optical properties of the high pressure phase of zinc sulfide. *J. Phys. Chem. Solids*, *52*, 821-825.

Campbell A. J. and Heinz D. L. (1991) Compression of KCl in the B2 structure to 56 GPa. *J. Phys. Chem. Solids*, *52*, 495-499.