ROBERT D. SHUSTER

Birthdate: February 22, 1954; Troy, New York

Education: 1976 B.S. (Geology/Chemistry) St. Lawrence University, Canton, New York

1978 M.S. (Geology) University of Kansas, Lawrence, Kansas

Masters Thesis: Chemistry and petrography of caldera-related ash flows, St. Francois Mountains, Missouri: Grassy Mountain Ignimbrite and Taum Sauk Rhyolite.

1985 Ph.D. (Geology) University of Kansas, Lawrence, Kansas

Doctoral Dissertation: Geochemical and isotopic evidence for the petrogenesis of the

northeastern Idaho batholith, Bitterroot Range, Montana and Idaho.

Experience: 2012 – 2019 Chair, Department of Geography/Geology, UNO

1993 - present Associate Professor; Department of Geography/Geology,

University of Nebraska-Omaha, Omaha, NE 68182-0199 (402) 554-2457 rshuster@unomaha.edu

1987-93 Assistant Professor; Department of Geography/Geology,

University of Nebraska-Omaha, Omaha, NE 68182-0199

1983-87 Post Doctoral Associate/Instructor; Department of Geology,

University of Florida, Gainesville, FL 32611

1976-83 Teaching and Research Assistant; Department of Geology,

University of Kansas, Lawrence, Kansas 66045

Honors: University of Nebraska-Omaha: Appointed Graduate Faculty Member

2000 - Alumni Outstanding Teaching Award

Service: University of Nebraska-Omaha: Chair of the Department -7/12 - 7/19

Undergraduate advisor:

Geol Soc. America campus representative;

Faculty advisor to Geology Club;

Acting Chair of the Department: 5/96-1/97 University Strategic Planning Committee Dean's Advisory Committee – 2006 - 2009 University Athletic Committee – 2007-2010

Thompson Learning Community Steering Committee

Arts & Sciences Dean search committee -2008 University General Education committee - 2010

STEM Leadership Team – 2012 -

Nebraska Geological Society: Member-At-Large - 1989-1990; Vice President -

1990-1991; President - 1991-1992

Council on Undergraduate Research: Geology Council Councilor: 1991-2006; present

Constitution Committee: 1992-2006 Chair - 1993-1995; 1997; 2003 Geol. Society of America: Committee on Research Grants: 2003-2006, 2014-2017

Program Reviews: 1998 Eastern Illinois University Dept. Geology & Geography

1999 Bloomsburg (PA) University Dept. Geography & Earth Sciences

2006 Adelphi University Environmental Studies Program

2008 Eastern Illinois University Dept. Geology & Geography

Grants: University Committee on Research - Summer Fellowship, 1988 - \$5,000 Continental Growth in the Mid-Continent of North America

University Committee on Research - Travel Grant, 1988 - \$244

Travel Support to Conduct Isotopic Analyses at the University of Florida

University Committee on Research - Equipment Grant, 1989 - \$800 Equipment to start a "Clean" Geochemistry Laboratory

University Committee for Improvement of Instruction - Equipment Grant, 1989 - \$210

Purchase of software to help teach about Plate Tectonics to undergraduates

National Science Foundation - Petrogenesis Division - 1990-1993 - \$30,000

The Granite-Rhyolite Province: An Example of Middle Proterozoic Crustal Growth and Evolution

University Committee on Research - Summer Fellowship, 1993 - \$5,400

Isotopic Analysis of Ocean Floor Basalts from the Siqueiros Transform Fault

University Committee for the Advancement of Teaching, 1993 - \$1,150

Environmental Geology Laboratory Undergraduate Teaching/Research Assistants

University Committee for the Advancement of Teaching, 1997 - \$1,175

Purchase of a Digital Camera for the Department of Geography and Geology

National Science Foundation - Improvement of Lab. Instruction, 1997-1999 - \$48,870 Geology X-ray Diffraction Laboratory

University Committee on Research - Summer Travel Grant, 2001 - \$6,330 with H.D. Maher, Jr. Preliminary Investigation of the High Arctic Large Igneous Province in Svalbard

The Petroleum Research Fund, 2001-2003 - \$29,925 with H.D. Maher, Jr. Sedimentologic & Geochemical Signature of the High Arctic Large Igneous Province in Svalbard, Norway

University Committee on Research - Summer Travel Grant,, 2003 - \$5,030 with H.D. Maher, Jr. *Iron ooid horizons, storm beds, glendonites and sand body architecture in the Carolinefjellet Fm., Advendalen, Spitsbergen*

National Science Foundation – Course Curriculum and Laboratory Improvement, 2004 - \$99,916 with D. Richter-Egger, J. Hagen, F. Laqueur, and N. Grandgenett Improving Student Learning and Attitudes in Chemistry Through Early Undergraduate, Interdisciplinary Research using ICP-MS

Institute for Global Environmental Strategies – 2007 – 2009 - \$39,988 with N. Grandgenett *ESSEA Coursework in Nebraska: Building Upon Excellence and Interest*

Incorporated Research Institutions for Seismology – 2008 - \$60,200 with H.D. Maher, Jr. Technology Assistance with Implementation and Operation of Transportable Array Element of USArray and EarthScope

NASA Nebraska Space Grant – 2009 - \$7,500 with N. Grandgenett NASA Earth System Science Class Involvement

The Petroleum Research Fund, 2009-2012 - \$65,000 with H.D. Maher, Jr.

Shallow Fracture Formation and Fluid Mobilization During Diagenetically Driven
Deformation: the Tertiary Badlands Chalcedony Vein Systems of South Dakota and
Nebraska

- The Nebraska Research Initiative, 2009 2010 \$129,976 with C. Mitchell, J. Rech, N. Grandgenett, D. Richter-Egger, G. Elder, S. McGlammery *NU-Teach*
- NASA Nebraska Space Grant 2009 \$10,000 with N. Grandgenett Online Curriculum Modules for Teacher Education
- NASA Nebraska Space Grant 2010 \$10,000 with N. Grandgenett and N. Topp Integration of iPad Technology into STEM Education Coursework
- The Nebraska Research Initiative 2012 2014 \$99,922 with N. Grandgenett, N. Topp, D. Khazanchi, D. Richter-Egger, and B. Barker *Project Matters*
- The Sherwood Foundation 2015 2019 \$628,208, with Christine Cutucache, Neal Grandgenett, William Tapprich, Steve Rodie

 Supporting Research Opportunities for Underprivileged Youth Through Teacher Researcher Partnerships

TOTAL \$1.28 million

Professional Affiliations: Geological Society of America, member

American Geophysical Union, member

National Association of Geology Teachers, member Nebraska Geological Society, member and past-President Council on Undergraduate Research, member and Councilor

Research Interests: Origin of granites; Evolution of continental crust; STEM education;

Geology and geochemistry of mafic volcanic rocks; Environmental Geology; Isotope Geochemistry; Geoarchaeology; Geology of Svalbard.

Senior Theses advised:

Rosemary Fenton, 1989, *Underground storage tank assessment: IDOT maintenance garage, Missouri Valley, Iowa*.

Kim S. McIntyre, 1991, The optical properties and associations of particles in building materials.

Jean Marie Saner Chytil, 1991, A hydrogeological evaluation for the containment system proposed for the Lime Settling basins at the Rocky Mountain Arsenal, Denver, Colorado.

Bruce A. Pletsch, 1993, Petrographic and geochemical analysis of a recovered cumulitic gabbro from the Siqueiros Transform Fault System.

Brad Roehr, 1994, Petrographic and geochemical analysis of an ash bed exposure in Hummel Park, Omaha, Nebraska.

Julie Pickrell, 1994, Temperature effects on tourmaline color and structure.

J. Michael Timmons, 1995, Geology of the Monte Largo Hills area, New Mexico: structural and metamorphic study of the eastern aureole of the Sandia pluton.

Teresa Silence, 1996, A study of sedimentation processes within the Akrotiri-Aetokremnos rockshelter, Cyprus.

Kieth A. Kalbach, 1997, Settlement of floodplain materials associated with the Big Papillion Creek located near Blondo Street, Omaha, NE.

Leah A. MacNeill, 1997, Isotopic analysis of xenoliths within the Sandia granite of New Mexico David M. Hansen, 1997, A petrographic and geochemical analysis of the Tanker Curve obsidian, Yellowstone National Park.

Julie Welch, 1998, Analysis of a subsurface volcanic ash deposit, Glenwood Iowa

Arthur W. Engelhardt, 1998, In depth analysis of a portion of the Thetis Regio Highland Region on Venus; a critical comparison of proposed upwelling and downwelling models for highland plateau formation

Jason D. Blair, 2000, A petrographic analysis of potshards from Tell Hisban, Jordan

Stacey L., Godek, 2003, Geochemical spatial analysis of the Middle Proterozoic Granite-Rhyolite Province

Jeremy Mutrux, 2005, Sm-Nd isotopic analysis of the Carolinefjellet Formation, Spitsbergen, Norway

Reanna Camp, 2005, Clay mineral analysis of glacial tills along the lower Elkhorn River, Nebraska

Jonathon Sarich, 2007, A study of grain size effects on X-ray diffraction patterns

Stephen Clark, 2007, A geochemical analysis of volcanic ash

Erin Young, 2007, Holocene arroyo history of the Little Dolores River, western Colorado

Jami Schuler, 2009, Soil Diagenesis of Badlands, South Dakota

Adam Gramke, 2009, EarthScope student siting Reconnaissance

Nicholas Valentour, 2010, A study of potential nested craters on Mars

Timothy W. Frerd, 2010, Identification of counter point bars on the Missouri River: Vermillion, SD to Omaha, NE

Brooke, E. Nicholson, 2010, Analyses of a chalcedony vein horizon near the Brule-Chadron contact, Chamberlain Pass, Badlands National Park, South Dakota

Aaron Ochsner, 2011, Application of Harrison correction to Nebraska BHT Data

Lu Hug, 2011, EarthScope Internship Report

Rachel Hines, 2011, X-ray diffraction and thins section analysis of a clastic dike near Sheep Mountain Table, Badlands National Park, South Dakota

Bronson Gerken, 2012, The role of dewatering in construction design

Drew Whitman, 2012, The mineralogy of the biotite gneiss of the Granite Falls area, Minnesota River Valley

Joe Boro, 2012, Petrographic analysis of collar rim jars from Tall Al-'Umayri, Jordan

Theresa Halligan, 2013, Analysis of Smectite/Illite Clays within the White River Group

Aaron Sherrill, 2014, A Comparison of impervious surface mapping and methods of the Minne Lusa Basin within the City of Omaha

Moussa Guira, 2014, Geochemical analysis of clay minerals from Toadstool Geologic Park Badland in Northwest Nebraska

Laura Pickett, 2014, Mineralogic Analysis of Veins/Dikes within the White River Group, NW Nebraska Brian Tipton, 2016, Polygenetic formation of flared slopes on granite terrain: Vedauwoo State Park, WY

Darius Rahmlow, 2016, Geology sample kit for University geoscience outreach programming in Omaha

Anna-Turi Mahar, 2017, Diagenesis analysis of a stratigraphic sequence of gypsum and interbedded clastic sediment deposits in the Santa Rosalia rift basin of Baja California Sur, Mexico

Jessica Bozell, 2018, The Effects of Replacement Reactions on Carbonate Rocks

Matthew Zabawa, 2018, Coal Combustion Residuals (CCR) Pond Dewatering: What is the Best Style of Wellpoint and Method of Construction for Coal Ash Dewatering

Publications:

- Bickford, M.E., Silka, L.R., Shuster, R.D., Angino, E.E., and Ragsdale, C.R., 1978, Determination of sub-nanogram amounts of Ag in rainwater by stable isotope dilution: Anal. Chem., v. 50, p. 469-471.
- Bickford, M.E., Chase, R.B., Nelson, B.K., <u>Shuster, R.D.</u>, and Arruda, E.C., 1981, U-Pb studies of zircon cores and overgrowths, and monazite: implications for age and petrogenesis of the northeastern Idaho batholith: Jour. Geol., v. 89, p. 433-457.
- Sides, J.R., Bickford, M.E., <u>Shuster, R.D.</u>, and Nusbaum, R.L., 1981, Calderas in the Precambrian terrane of the St. Francois Mountains, southeastern Missouri: Jour. Geophys. Res., v. 86, p. 10349-10364.

- Thomas, J.J., Shuster, R.D., and Bickford, M.E., 1984, A terrane of 1350-1400 m.y. old silicic volcanic and plutonic rocks in the buried Proterozoic of the midcontinent and in the Wet Mountains, Colorado: Bull. Geol. Soc. America, v. 95, p. 1150-1157.
- Shuster, R.D., and Bickford, M.E., 1985, Chemical and isotopic evidence for the petrogenesis of the northeastern Idaho batholith: Jour. Geol., v. 93, p. 727-742.
- Lafrenz, W.B., Shuster, R.D., Mueller, P.A., and Bowes, D., 1986, Archean and Proterozoic granitoids of the Hawley Peak area, Beartooth Mountains, Montana: *in* Geology of the Beartooth Uplift and Adjacent Basins, Montana Geological Society, p. 79-89.
- Opdyke, N.D., Jones, D.S., MacFadden, B.J., Smith, D.L., Mueller, P.A., and Shuster, R.D., 1987, Florida as an exotic terrane: Paleomagnetic and geochronologic investigation of lower Paleozoic rocks from the subsurface of Florida: Geology, v. 15, p. 900-903.
- Mueller, P.A., Shuster, R.D., Graves, M.A., Wooden, J.L., and Bowes, D.R., 1988, Age and composition of a Late-Archean magmatic complex, Beartooth Mountains, Montana-Wyoming: Mont. Bureau of Mines and Geol. Special Pub., v. 96, p. 7-22.
- Johnson, R.W., Perfit, M.R., Chappell, B.W., Jaques, A.L., <u>Shuster, R.D.</u>, and Ridley, W.I., 1988, Volcanism in the New Ireland Basin and Manus Island region: notes on the geochemistry and petrology of some dredged volcanic rocks from a rifted-arc region: *in* Marlow, M.S., Dadisman, S.V., and Exon, N.F., eds., Geology and offshore resources of Pacific island arcs New Ireland and Manus region, Papua New Guinea, Circum-Pacific Council for Energy and Mineral Resources Earth Science Series, v. 9, p. 111- 128.
- Bickford, M.E., Shuster, R.D., and Boardman, S.J., 1989, U-Pb geochronology of the Proterozoic volcano-plutonic terrane in the Gunnison and Salida areas, Colorado: *in* Grambling, J.A., and Tewksbury, B.J., Proterozoic geology of the southern Rocky Mountains: Boulder, Colorado, Geol. Soc. America Special Paper 235, p. 33-48.
- Bickford, M.E., Cullers, R.L., Shuster, R.D., Premo, W.R., and Van Schmus, W.R., 1989, U-Pb zircon geochronology of Proterozoic and Cambrian plutons in the Wet Mountains and southern Front Range, Colorado: *in* Grambling, J.A., and Tewksbury, B.J., Proterozoic geology of the southern Rocky Mountains: Boulder, Colorado, Geol. Soc. America Special Paper 235, p. 49-64.
- Romick, J.D., Perfit, M.R., Swanson, S.E., and <u>Shuster, R.D.</u>, 1990, Magmatism in the eastern Aleutian Arc: temporal characteristics of igneous activity on Akutan Island: Contributions to Mineralogy and Petrology, v. 104, p. 700-721.
- Shuster, Robert D., 1993, Funding undergraduate research at non-private institutions, or "What the Keck is a Pew cluster?": Council on Undergraduate Research Newsletter, v. 13, n. 3, p. 9-11.
- Mueller, P.A., Shuster, R.D., Wooden, J.L., Erslev, E.A., and Bowes, D.R., 1993, Age and composition of Archean crystalline rocks from the southern Madison Range, Montana: implications for crustal evolution in the Wyoming Craton: Bull. Geol. Soc. America, v. 105, no. 4, p. 437 446.

- Mueller, P.A., Heatherington, A.L., Wooden, J.L., <u>Shuster, R.D.</u>, Nutman, A.P., and Williams, I.S., 1994, Precambrian zircons from the Florida Basement: implications for continental reconstructions: Geology, v. 22, no. 2, p. 119-122.
- Maher, Harmon D., <u>Shuster, Robert</u>, Swearingen, Jann, and Honke, Jeff, 1994, Undergraduate involvement in the development of an Environmental Geology Lab: Council on Undergraduate Quarterly, v. 14, no. 3, p. 131-133.
- Mueller, P.A., Shuster, R.D., D'Arcy, K.A., Heatherington, A.L., Nutman, A.P., and Williams, I.S., 1995, Source of the northeastern Idaho batholith: isotopic evidence for a Paleoproterozoic terrane in the northwestern U.S.: Journal of Geology, v. 103, p. 63-72.
- Jones, D.S., Mueller, P.A., Acosta, T., and Shuster, R.D., 1995, Strontium isotopic stratigraphy and age estimates for the Leisey Shell Pit faunas, Hillsborough County, Florida: Bull. Florida Mus. Nat. Hist., vol. 37, PT. I, No. 2, p. 93-105.
- Perfit, M.R., Fornari, D.J., Ridley, W.I., Kirk, P.D., Casey, J., Kastens, K.A., Reynolds, J.R., Edwards, M., Desonie, D., Shuster, R., and Paradis, S., 1996, Recent volcanism in the Siqueiros transform fault: picritic basalts and implications for MORB magma genesis: Earth and Planetary Science Letters, v. 141, p. 91-108.
- London, Gloria, and Shuster, Robert, 1999, Bethsaida Iron Age ceramics, *in* Rami Arav and Richard A. Freund, eds., Bethsaida: A City by the North Shore of the Sea of Galilee, Volume 2, p. 175-224.
- Maher, Harmon D., Jr., Engelmann, George F., and <u>Shuster, Robert D.</u>, 2003, Roadside Geology of Nebraska: Mountain Press Publishing Company, Missoula, MT, 264 pages.
- Maher, Harmon D., Jr., Hays, Troy, <u>Shuster</u>, <u>Robert</u>, and Mutrux, Jeremy, 2004, Petrography of Lower Cretaceous sandstones on Svalbard: Polar Research 23 (2), p. 147 165.
- London, Gloria A., Shuster, Robert D., and Jacobs, Loe, 2007, Ceramic technology of selected Hellenistic and Iron Age pottery based on re-firing experiments: Leiden Journal of Pottery Studies, v. 23, p. 77-88.
- Mutrux, Jeremy, Maher, Harmon, <u>Shuster, Robert</u>, and Hays, Troy, 2008, Iron ooid horizons of the Carolinefjellet Formation, Spitsbergen, Norway: Polar Research 27, 16 pages.
- London, G.A., Shuster, R.D., Blair, J., and Kelly, S., 2008, Comparison of Compositional Analyses of Iron Age Ceramics from Two Sites in Jordan: Leiden Journal of Pottery Studies 24, p. 115-132.
- Shuster, Robert, 2009, Petrographic Analysis of a Hippo Jar from the Storage Room of the Stratum 5 City Gate: Chapter 2 of *Bethsaida: A City by the North Shore of the Sea of Galilee, vo. 4*, edited by Rami Arav and Richard A. Freund, p. 123-124.
- London, G.A. and Shuster, Robert, 2009, Timeless pottery traditions and organization of the ceramics Industry in ancient Jordan and Israel: a case-study from Tall Hisban and Tel Jezreel: Leiden Journal of Pottery Studies 25, p. 47 62.
- Richter-Egger, Dana L., Hagen, James P., Laquer, Frederic C., Grandgenett, Neal F., and Shuster, Robert

- <u>D.</u>, 2010, Improving student attitudes about science by integrating research into the Introductory Chemistry Laboratory: interdisciplinary drinking water analysis: Journal of Chemical Education, v. 87 (8), pp 862-868.
- London, Gloria and Shuster, Robert, 2011, Organizational aspects of pottery production in Central Jordan, in *The Madaba Plains Project: Forty Years of Archaeological Research into Jordan's Past*, eds. D.R. Clark, L.G. Herr, Ø.S. LaBianca, and R.W. Younker. London: Equinox., p. 135-155.
- Kamenov, George D., Perfit, Michael R., Lewis, John, Goss, Adam R., Arevalo, Ricardo, and Shuster, Robert D., 2011, Ancient lithospheric source for Quatrenary lavas in Hispaniola: Nature Geoscience, v. 4, p. 554 557.
- London, Gloria and Shuster, Robert, 2011, Calcite: A Hard Habit to Break: in *Daily Life, Materiality, and Complexity in Early Urban Communities of the Southern Levant*, eds. Meredith S. Chesson, Walter Aufrecht, and Ian Kuijt, Eisenbrauns Publ., Winona Lake, Indiana, p. 233 246.
- Maher, Harmon and Shuster, Robert, 2012, Chalcedony vein horizons and clastic dikes in the White River Group as products of diagenetically driven deformation: Lithosphere, v. 4, p. 167-186.
- London, Gloria and Shuster, Robert, 2012, Ceramic Technology at Hisban: in *Hesban 11, Ceramic Finds:* Typological and Technological Studies of the Pottery Remains from Tell Hesban and Vicinity, eds. James A. Sauer and Larry G. Herr, Andrews University PressBerrian Springs, MI, p. 597 764.
- London, Gloria and Shuster, Robert, 2014, Organization of Pottery Production in the Iron Age: Evidence from Tell Hesban and Tell Al-'Umayri: in *Exploring the Narrative: Jerusalem and Jordan in the Bronze and Iron Ages*, eds. Eveline van der Steen, Jeannette Boertien, and Noor Mulder-Hymans, Bloomsbury Pub., London, p. 36 61.
- Tapprich, William, Grandgenett, Neal, Leas, Heather, Rodie, Steve, Shuster, Robert, Schaben, Chris, and Cutucache, Christine, 2016, Enhancing the STEM Ecosystem through teacher-researcher partnerships, Metropolitan Universities Journal, vol 27, No. 1, p. 71-85.
- Cutucache, Christine, Grandgenett, Nealy, Leas, Heather, Nelson, Kari, Shuster, Robert, Rodie, Steve, and Tapprich, William, 2018, Genuine Faculty-Mentored Research Experiences for In-Service Science Teachers: Increases in Science Knowledge, Perception, and Confidence Levels: Journal of Science Teacher Education, Volume 28, issue 8.

Abstracts:

- Shuster, R.D., and Bickford, M.E., 1982, Sr and Pb isotopic evidence for the petrogenesis of the northeastern portion of the Idaho batholith: Geol. Soc. America, Abstracts with Programs, v. 14, no. 7, p. 616.
- Shuster, R.D., 1984, Age, origin, and significance of the San Isabel batholith, Wet Mountains, Colorado: Geol. Soc. America, Abstracts with Programs, v. 16, no. 4, p. 255.

- Wertz, William K., Perfit, Michael R., and <u>Shuster, Robert D.</u>, 1985, Strontium isotopic evidence for an enriched source for post-subduction volcanic rocks, Dominican Republic: Geol. Soc. America, Abstracts with Programs, v. 17, no. 7, p. 747.
- Wooden, J.L., Mueller, P.A., Graves, M.A., <u>Shuster R.D.</u>, Henry, D.J., and Bowes, D.R., 1985, Age, compositional, and isotopic evidence for crustal recycling in a Late Archean arc, Beartooth Mountains: Geol. Soc. America, Abstracts with Programs, v. 17, no. 7, p. 754.
- Ridley, W.I., Perfit, M.R., Shuster, R.D., and Crock, J.G., 1986, Origin of Mount Taylor volcanic complex, New Mexico: New isotopic and REE constraints: Trans. Amer. Geophys. Union (EOS), 67, p. 413.
- Ridley, W.I., Perfit, M.R., <u>Shuster, R.D.</u>, and Crock, J.G., 1986, Magmatic processes at Mt. Taylor volcanic complex, New Mexico: Geol. Soc. America, Abstracts with Programs, v. 18, no. 7, p. 730.
- Shuster, R.D., Perfit, M.R., and Wertz, W.K. 1986, Geochemical evidence for enriched sources for shoshinitic rocks from Hispaniola, Greater Antilles: Trans. Amer. Geophys. Union (EOS), 67, p. 1281.
- Perfit, M.R., Shuster, R.D., Allen, J., Batiza, R., and Fornari, D., 1986, Trace element and isotopic characteristics of seamounts near the East Pacific Rise: probes to MORB sources: Trans. Amer. Geophys. Union (EOS), 67, p. 1184.
- Carpenter, Paul K., Henry, Darrel J., Mueller, Paul A., and <u>Shuster, Robert D.</u>, 1987, Mineral chemistry, imaging, and U-Pb systematics in zircon: an integrated approach: Geol. Soc. America, Abstracts with Programs, v. 19, no. 7, p. 611-612.
- Shuster, R.D., Mueller, P.A., Erslev, E.A., and Bowes, D.R., 1987, Age and composition of the Pre-Cherry Creek metamorphic complex of the southern Madison Range, southwestern Montana: Geol. Soc. America, Abstracts with Programs, v. 19, no. 7, p. 843-844.
- Tyner, G. Nell, <u>Shuster, Robert D.</u>, Mueller, Paul A., and Smith D., 1987, Geochemical models of the potassic, xenolith-bearing Sullivan Buttes Latite, Arizona: combined assimilation and fractional crystallization: Geol. Soc. America, Abstracts with Programs, v. 19, no. 7, p. 873.
- Shuster, R.D., Anderson, R.R., and Mukasa, S.B., 1988, Rb/Sr and Sm/Nd isotopic analysis of a Keweenawan gabbro from the subsurface of northeast Iowa: Geol. Soc. America, Abstracts with Programs, v. 20, no. 2, p. 128.
- Perfit, M.R., Mukasa, S.B., Shuster, R.D., and Fornari, D.J., 1988, Trace element and isotopic compositions of basalts from the Lamont seamounts: implications for MORB sources and petrogenesis: Trans. Amer. Geophys. Union (EOS), 69,p. 1475.
- Shuster, R.D., Mueller, P.A., D'Arcy, K., and Heatherington, A., 1989, Nd evidence of the age and nature of source regions of the northeastern Idaho batholith and Tobacco Root batholith, Montana: Geol. Soc. America, Abstracts with Programs, v. 21, no. 6, p. A325.

- Shuster, R.D., Mueller, P.A., and Heatherington, A., 1991, Isotopic systematics and geochemistry of the Granite-Rhyolite Province: evidence for anorogenic crustal evolution in the Middle Proterozoic: Geol. Soc. America, Abstracts with Programs, v. 23, no. 5, p. A454.
- Fornari, D., Perfit, M., Casey, J., Kastens, K., Edwards, M., Kirk, P., Ridley, I., Reynolds, J., Shuster, R., Paradis, S., Desonie, D., Ernst, P., Xia, C., McCoy, F., Miller, J., Halter, E., and Ivy, T., 1991, ALVIN diving and Seabeam surveying in the Siqueiros transform: the detailed volcanic and tectonic setting of intra-transform spreading centers: Trans. Amer. Geophys. Union (EOS), v. 72, no. 44, p. 525.
- Shuster, R.D., Mueller, P.A., and Heatherington, A., 1992, Geochemical constraints on the origin and evolution of the Granite-Rhyolite Province: Geol. Soc. America, Abstracts with Programs, v. 24, no. 4, p. 64.
- Shuster, R.D., Mueller, P.A., and Heatherington, A., 1992, Geochemical evidence concerning the nature of the source region to the Middle Proterozoic Granite-Rhyolite Province: Geol. Soc. America, Abstracts with Programs, v. 24, no. 7, p. A93.
- Shuster, R.D., Mueller, P.A., and Heatherington, A., 1993, Geochemical nature of the Southern Granite-Rhyolite Province: Geol. Soc. America, Abstracts with Programs, v. 25. no. 1, p. 42.
- Mueller, P., Heatherington, A.L., Wooden, J., Shuster, R., Mogk, D., and Nutman, A., 1994, Paleoproterozoic evolution of the NW margin of the Wyoming craton: evidence for 1.7 and 2.4 Ga terranes: Geol. Soc. America, Abstracts with Programs, v. 26, no. 7, p. 340.
- Shuster, R.D., Maher, H.D., Jr., Shroder, J.F., Jr., and Engelmann, G.F., 1995, Involving undergraduates in geologic research at an urban university: Geol. Soc. America, Abstracts with Programs, v. 27, no. 3, p. 85.
- Silence, Teresa, Mandel, Rolfe D., and <u>Shuster, Robert D.</u>, 1995, Study of sedimentation processes within the Akrotiri Aetokremnos rockshelter, Cyprus: Geol. Soc. America, Abstracts with Programs, v. 27, no. 3, p. 85.
- Timmons, J. Michael, <u>Shuster, Robert D.</u>, and Karlstrom, Karl E., 1995, Geology of the Monte Largo Hills area, New Mexico: structural and metamorphic study of the eastern aureole of the Sandia pluton: Geol. Soc. America, Abstracts with Programs, v. 27, no. 3, p. 90.
- Shuster, R.D., 1995, Undergraduate Research as a capstone experience for end-of-program assessment at the University of Nebraska-Omaha: Geol. Soc. America, Abstracts with Programs, v. 27, no. 6, p. 360.
- Shuster, R.D., and Mueller, P.A., 1996, Nature of the Mesoproterozoic "Granite-Rhyolite" Province: Geol. Soc. America, Abstracts with Programs, v. 28, no. 7, p. A-375.
- Shuster, R.D., Maher, H.D. Jr., Engelmann, G.F., and Shroder, J.F. Jr., 1999, Undergraduate Research and the Non-Traditional Student: Special Challenges and Special Opportunities: Geol. Soc. America, Abstracts with Programs, v. 31, no. 7, p. A-318.

- Shuster, Robert D., and London, Gloria A., 1999, Petrographic analysis of Iron Age ceramics from Bethsaida, Israel: American Assoc. Advancement of Science, Midwest Regional Meeting, vol. 39, no. 2, p. 33.
- Blair, Jason D., London, Gloria, and <u>Shuster, Robert</u>, 2000, A petrographic analsis of potsherds from Tell Hisban, Jordan: Geol. Soc. America, Abstracts with Programs, v. 32, no. 4, p. A-5.
- Shuster, Robert D., 2001, Models for the origin of the Mesoproterozoic "Granite-Rhyolite" Province: Geol. Soc. America, Abstracts with Programs, v. 33, no.4, p. A-10.
- Shuster, Robert D., and London, Gloria A., 2001, Study of Iron Age Ceramics from Bethsaida, Israel Using Petrographic Techniques: American Assoc. of Geographers, RM/GP meeting, Omaha, NE.
- Blair, Jason D., London, Gloria, and <u>Shuster, Robert</u>, 2001, A petrographic approach to potsherd analysis: potsherds from Tell Hisban Jordan: American Assoc. of Geographers, RM/GP meeting, Omaha, NE.
- Hays, Troy D., Maher, Harmon, and <u>Shuster, Robert</u>, 2002, Sedimentologic record of the High Arctic Large Igneous Province in Cretaceous strata of Midterhuken, Svalbard, Norway: The Nebraska Academy of Sciences, Program and Proceedings, p. 57.
- Shuster, Robert D., Maher, Harmon D., Jr., Engelmann, George F., and Shroder, John F., 2002, Urbanizing geoscience in Omaha, Nebraska, Geol. Society America, Abstracts with Programs, v. 34, no. 6, p. 93.
- Maher, Harmon D., Jr., Hays, Troy, <u>Shuster, Robert</u>, and Mutrux, Jeremy, 2002, Signature of a mafic volcanic source in Barremian to Albian sandstones on Spitsbergen Norway, Geol. Society America, Abstracts with Programs, v. 34, no. 6, p. 208.
- Mutrux, Jeremy G., Maher, Harmon D., Jr., <u>Shuster, Robert D.</u>, and Hays, Troy D., 2003, Chamosite ooid horizons of the Carolinefjellet Formation, Spitsbergen, Norway: Geol. Society of America, Abstracts with Programs, v. 35, no. 2, p. 18.
- Godek, Stacey L., and Shuster Robert D., 2003, Geochemical spatial analysis of the Middle Proterozoic Granite-Rhyolite Province: Geol. Society of America, Abstracts with Programs, v. 35, no. 2, p. 19.
- Shuster, Robert D., Mutrux, Jeremy G., and Maher, Harmon D. Jr., 2004, Neodymium isotopic analysis of Cretaceous rocks from Svalbard, Norway: Geol. Society of America, Abstracts with Programs, v. 36, no. 3, p. 46.
- Hagen, James P., Laquer, Fredric C., Richter-Egger, Dana L., and <u>Shuster, Robert D.</u>, 2004, Interdisciplinary Research Inquiries in Introductory Chemistry: 36th Annual Great Lakes Regional Meeting, Oct. 17-20, 2004, Peoria II, page 167.
- Hagen, James P., Laquer, Fredric C., Richter-Egger, Dana L., and <u>Shuster, Robert D.</u>, 2004, Interdisciplinary Research Inquiries in Introductory Science: 18th Biennial Conference on Chemical Education, July 18-22, 2004, Ames, IA, page 203.

- Shuster, Robert D., Hagen, James P., Laquer, Fredric C., and Richter-Egger, Dana L., 2004, Learning science by doing science: Research inquiries in introductory science: 10th National Conference, Council on Undergraduate Research, Workshop and Poster Abstracts, p. 38.
- Shuster, Robert D., 2005, Earth Science for educators: a standards focused course for in-service teachers in Omaha, Nebraska; Geol Society of America, Abstracts with Programs, v. 37, no. 5, p 10.
- Hagen, J., Laquer, Fritz, Richter-Egger, Dana and Shuster, Robert, 2005, Interdisciplinary Research Inquiries in Introductory Chemistry: 40th Annual Midwest Regional ACS Meeting, Joplin, MO.
- Hagen, J., Laquer, Fritz, Richter-Egger, Dana and Shuster, Robert, 2005, Interdisciplinary Research Inquiries in Introductory Chemistry: 230th Annual National ACS Meeting, Washington, DC.
- Shuster, Robert D., Richter-Egger, Dana, Hagen, James, Laquer, Fredric C., and Grandgenett, Nealy F.,
 2007, Interdisciplinary Research in Introductory Science Classes: Geol. Society of America,
 Abstracts with Programs, v. 39, no. 3, p. 53.
- Maher, Harmon D., Jr., and <u>Shuster, Robert</u>, 2007, Attributes of a Cretaceous Storm Bed from Spitsbergen, Norway: Geol. Society of America, Abstracts with Programs, v. 39, no. 3, p. 68.
- Clark, Stephen L., Shuster, Robert, and Richter-Egger, Dana, 2007, A Geochemical Analysis of Volcanic Ash, Geol. Society of America, Abstracts with Programs, v. 39, no. 3, p. 59.
- Shuster, Robert D., and Richter-Egger, Dana, 2007, Early undergraduate research in introductory geology and chemistry classes, Geol. Society of America, Abstracts with Programs, v. 39, no. 6, p. 247.
- Shuster, R.D., and Grandgenett, N., 2007, Review of the electronic coursework efforts of the University of Nebraska-Omaha in the Earth System Science Education Alliance, Trans. Amer. Geophys. Union (EOS), p. 104.
- Maher, Harmon D., Engelmann, G., <u>Shuster, R.D.</u>, and Chen, Bing, 2008, A Prehistory of Violence?: 34th Interdisciplinary Seminar, Center for Great Plains Studies.
- Grandgenett, Neal, and Shuster, Robert, 2008, Lessons learned from a NASA/NSF sponsored online Earth System Science course for teachers, Proceedings of the Nebraska Academy of Sciences Initial results of on-line Earth System Science course offerings at the University of Nebraska-Omaha through the Earth System Science Alliance: Trans. Amer. Geophys. Union (EOS), p. 67.
- Shuster, Robert D., and Grandgenett, Nealy F., 2009, K-16 collaboration between the University of Nebraska-Omaha and Omaha, Nebraska area schools: on-line Earth System Science course offerings, Geol. Society of America, Abstracts with Programs, v. 41, no. 4, p. 25.
- Shuster, Robert D. and Maher, Harmon Jr., 2009, Are clastic dikes in Badlands National Park a result of structural diagenesis?: Geol. Society of America, Abstracts with Programs, v. 41, no. 7, p. 413.
- Shuster, RD., and Grandgenett, N, 2009, Assessment of an on-line Earth System Science course for teachers: Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract ED11B-06.
- Nicholson, Brooke E., Cubrich Bart T., Tipton, Brian, Hines, Rachael, Hegdahl, Nathan, Kinkade, John,

- Maher, Harmon Jr, Shuster, Robert D., and Holmes, Mary Anne, 2010, Diagenesis in Tertiary strata and the formation of chalcedony vein horizons: Badlands National Park, South Dakota: Geol. Society of America, Abstracts with Programs, v. 42, no. 2, p. 64.
- Grandgenett, Neal, and Shuster, Robert D. 2010: Two Online Curriculums for Teacher Education: 1) The Earth System Science Education Alliance Course (ESSEA) 2) The SPIRIT Educational Robotics Curriculum (SPIRIT), Nebraska Academy of Science, v. 120, p. 46.
- Diggins, Maureen P., Urban, Alexander, Cubrich, Bart T., <u>Shuster, Robert</u>, and Maher, Harmon Jr., 2010, Clastic dikes in the Cedar Pass Area, Badlands National Park, SD, Geol. Society of America, Abstracts with Programs, v. 42, no. 5, p. 458.
- Shuster, Robert D., and Grandgenett, Neal F., 2010, Creating interdisciplinary STEM environments at The University of Nebraska at Omaha, Eos Trans. AGU.
- Grandgenett, Neal, Topp, Neal, <u>Shuster, Robert</u>, Richter-Egger, Dana, and Matthews, Michael, 2011, The integration of iPad technology into STEM education coursework: Nebraska Academy of Science, v. 121, p. 45.
- Halligan, Theresa, Korth, Ryan, Maher, Harmon Jr., and <u>Shuster, Robert D.</u>, 2011, The relationship of clastic dikes in northwestern Nebraska to those in Badlands National Park, Geol. Society of America, Abstracts with Programs, v. 43., no. 5, p. 117.
- Shuster, Robert D. and Grandgenett, Nealy F., 2011, In-service professional development through an online Earth System Science course, Geol. Society of America, Abstracts with Programs, v. 43., no. 5, p. 523.
- Shuster, Robert D., and London, Gloria, 2012, Calcite: A hard habit to break, Geol. Society of America, Abstracts with Programs, v. 44, no. 5, p. 5.
- Boro, Joseph R., and <u>Shuster, Robert D.</u>, 2012, Petrographic analysis of collar rim jars from Tall Al 'Umayri, Jordan, Geol. Society of America, Abstracts with Programs, v. 44, no. 5, p. 13.
- Shuster, Robert D., 2013, Action plan for strengthening the Geology program at the University of Nebraska Omaha, Geol. Society of America, Abstracts with Programs, v. 45, no. 7, p. 62.
- Shroder, John F. Jr, Becker, David, Engelmann, George F., Maher, Harmon Jr, Shuster, Robert D., and Frimpong, Samuel, 2014, Fostering Geoeducation in Afghanistan: Focus on Faculty at Kabul Polytechnic University, Geological Society of America Abstracts with Programs. Vol. 46, No. 6, p.667.
- Halligan, Theresa, Maher, Harmon Jr, and <u>Shuster, Robert D</u>., 2014, Analysis of Smectite/Illite Clays Within the White River Group, Geological Society of America Abstracts with Programs. Vol. 46, No. 6, p.769.
- Shuster, Robert D., Grandgenett, Nealy, Cutucache, Christine, Tapprich, William, and Rodie, Steve, 2015, Using authentic research experiences to improve STEM education in the K-12 environment, Geol. Society of America, Abstracts with Programs, v. 47, No. 7.

- Cutucache, C., N. Grandgenett, H. Leas, S. Rodie, C. Schaben, <u>R. Shuster</u>, and W. Tapprich, 2016, Genuine Research Experiences for K-12 Science Teachers: A pilot study highlighting a university and public school district partnership in science, International Symposium of New Issues in Teacher Education (ISNITE) Conference, Savonlinna, Finland.
- Stover, Lee A., Dere, Ashlee L., Cutucache, Christine, Grandgenett, Neal, Rodie, Steve, Shuster, Robert, Tapprich, William, and Schaben, Chris, 2016, Integrating research experiences into high school environmental science classrooms through Teacher-Researcher Partnerships in an urban environment, Geol. Society of America, Abstracts with Programs, v. 48, No. 7.
- Shuster, Robert D., Dere, Ashlee Laura Denton, Cutucache, Christine, Grandgenett, Nealy F., Tapprich, William, and Rodie, Steve, 2017, Professional development of science teachers in Omaha, Nebraska using authentic research experiences, Geol. Society of America Abstracts with Programs. Vol. 49, No. 6.
- Dere, Ashlee Laura Denton, Stover, Lee A., Benzoni, Rachel, Shuster, Robert D., Rodie, Steve, Cutucache, Christine, Grandgenett, Neal and Tapprich, William, 2019, A partnership to engage high school and undergraduate students in geoscience research in Omaha, Nebraska, Geol. Society of America, Abstracts with Programs, v. 51, No. 5.
- Dere, Ashlee Laura Denton, Shuster, Robert, Knapp, Kasie, and Miller, Andrew, 2019, Geochemical reaction fronts under agriculture, restored prairie, and native prairie land use in a midwestern loess Critical Zone, Geol. Society of America Abstracts with Programs, v. 51, No. 5.