

Dr. C. Renee Sparks

Geology, Geography, and Environmental Studies
Calvin University
3201 Burton SE, Grand Rapids, Michigan, 49546
crs38@calvin.edu

Office Phone:
616.526.7954

Academic and Professional Appointments

2015-Present, Calvin University

Full Professor, Department of Geology, Geography, and Environmental Studies
Director of the Bruce Dice Mineralogical Museum
Board Chair for the Clean Water Institute of Calvin
Board Member of North-Central GSA 2015-2018

Courses Taught: Mineralogy, Petrology, Geochemistry, Structural Geology, Geologic Field Methods, Big Sky Geology – Montana, Geology as a Vocation, Introductory Geology, Earth Systems, Historical Geology, Field Geology of Scotland, Landscapes of Hawaii

Current Research Projects:

Exploring the influence of latitude and equatorial bulge on planetary tectonic movement along pre-existing fracture systems.

2000-2015, Northwest Missouri State University

Full Professor, Department of Natural Sciences (2014-2015)
Associate Professor, Department of Natural Sciences (2012-2014)
Associate Professor and Geology/Geography Department Chair (2010 – 2012)
Associate Professor, Geology/Geography Department (2008-2010)
Assistant Professor, Geology/Geography Department (2000-2008)
Courses Taught: Mineralogy, Petrology, Geochemistry, Igneous Petrology, Geologic Field Methods, Field Geology of the British Isles, Earth Science, General Geology, Technology in the Geosciences

1998-2000, Mineral Area College, Park Hills, MO, Science Instructor

*Courses Taught: Earth Science, General Geology, Astronomy, General Chemistry
International Studies Committee, Missouri Community College Consortium*

1996-1998, University of Kansas, Department of Geology

GTA: Mineralogy, Optical Mineralogy, Petrology, Geomorphology
GRA: Kansas Geological Survey

1994-1996, Kansas Department of Agriculture, Division Water Resources

Environmental Scientist – Geologist, Basin Management Team

Education

Ph.D. Geology, 2001 University of Kansas:

Dissertation: *Identifying Paleoproterozoic and Mesoproterozoic crustal domains within the Southern Granite and Rhyolite Province, Midcontinent North America.*

Relevant Coursework: Isotope Geochemistry, Cosmochemistry, Extensional Tectonics, Geophysics

M.S. Geology, 1994: Kansas State University

Master's Thesis: *Electromagnetic detection of saltwater in the shallow subsurface along the Saline River Russell County, Kansas*

Relevant Coursework: Water Resources Geochemistry, Hydrogeology, Hydrology
Teaching Assistantship: Historical Geology, General Geology

B.S. in Geology, 1992: Kansas State University

Publications and Presentations (authorship in bold)

- Sparks, C.R.**, 2020, Online field experiences for structure and tectonics in the Southern Appalachian Mountains, GSA Abstracts with Programs.
- Sparks, C.R.** and Jacques, I.J., 2019, Geologic mapping and lithospheric deformation in the structurally complex region of Central-Western Honduras, GSA Abstracts with Programs. Vol. 51, No. 2 doi: 10.1130/abs/2019SC-326621
- Sparks, C.R.** and Jacques, I.J., 2018, Contributions of groundwater to the surface water system in the upper Uluva River Basin of Central Honduras, GSA Abstracts with Programs. Vol. 50, No. 4, ISSN 0016-7592 doi: 10.1130/abs/2018NC-311932
- Sparks, C.R.**, 2017, Engaging students on the electronic platform, GSA Abstracts with Programs. Vol. 49, No. 2
- Blakemore, D.R., Bos, Nathaniel, H., and **Sparks, C.R.**, 2017, Concentrations of Pb, Zn, and Ag associated with native copper deposition, Keeweenaw MI GSA Abstracts with Programs. Vol. 49, No. 2
- Blakemore, Daniel R.; **Sparks, C. Renee**; and Bos, Nathaniel H., 2016, Concentration of Metals Associated with the Native Copper Deposits of Northern Michigan, *The Compass: Earth Science Journal of Sigma Gamma Epsilon*: Vol. 88: Iss. 4, Article 1.
Available at: <http://digitalcommons.csbsju.edu/compass/vol88/iss4/1>
- Sparks, C.R.**, 2016, Commencement of a mineral museum, GSA Abstracts with Programs. Vol. 48, No. 5
- Sparks, C.R. Rohs** and Johnson, A.W., 2014 Linking faculty and student research in the development and continued improvement of a study abroad course focused on the field geology of the British Isles. *CUR Quarterly*, Winter 2014, Vol. 35, No. 2
- Schulta, R. and **Rohs-Sparks, C. R.**, 2014, Petrological comparison between the Sunlight and Thorofare Creek Groups in the Absaroka Mountains, Wyoming: GSA Abstracts with Programs. Vol. 46, No. 4

- Rohs, C.R.**, 2013, Alive and aware: Undergraduate research as a mechanism for program vitalization. American Geophysical Union, Fall Meeting: Dec 9-13, 2013 San Francisco, CA. Program, p. (*Abstract*)
- Rohs, C.R.**, 2013, Timing of thermal overprints in the Silvermines granite and associated diabase intrusions, St. Francois Mountains, The Compass: Earth Science Journal of Sigma Gamma Epsilon. v. 85, n. 3.
- Invited presentation. Missouri State University **Rohs, C.R.**, October 2013, Field geology of the British Isles: Research and Development
- Invited presentation. Missouri Academy of Mathematics, Science, and Technology **Rohs, C.R.**, April 2013, Highlights of Undergraduate Research
- Nichols, C.A. and **Rohs, C.R.**, 2013, Mineralogical comparison of metamorphosed rocks from the Ballantrae ophiolite and the Sliswood Gap serpentinite, UK and Ireland: GSA Abstracts with Programs. Vol. 45, No. 4, p.60
- Oehler, D.C., and **Rohs, C.R.**, 2012, Academic Chairpersons Conference, Satisfying and Delicious: A Flavorful Recipe for Department Leadership, Orlando, FL February 2012.
- Walter, J.K. and **Rohs, C.R.**, 2012, Mineralogical Composition of Diabase and Altered Dolostone from the St. Francois Mountains near Annapolis, Missouri, USA: The Compass: Earth Science Journal of Sigma Gamma Epsilon, v. 84, n. 1, Article 4.
Available at: <http://digitalcommons.csbsju.edu/compass/vol84/iss1/4>
- Walter, J.K. and **Rohs, C.R.**, 2011, Mineralogical Composition of Diabase and Altered Dolomite near Annapolis, Missouri: GSA Abstracts with Programs, Vol. 43, No. 5
- Johnson, A.W. and **Rohs, C.R.**, 2011, Field Geology of the British Isles: An activity-based international field course: GSA Abstracts with Programs Vol. 43, No. 5.
- Rohs, C.R.**, 2011, Departmental change in tenure and promotion process - getting down to specifics in tenure and promotion documents, CUR Quarterly, Summer 2011 Issue.
- Invited presentation. Missouri Academy of Mathematics, Science, and Technology **Rohs, C.R.**, March 2011, Highlights of Undergraduate Research in Geology
- Rohs, C.R.** and Johnson, A.W., October 2010, Field geology of the British Isles: Presentation at the annual meeting of the Association of Missouri Geologists, Maryville, MO
- Rohs, C.R.** and Johnson, A.W., 2010, Field geology of the British Isles: Combining faculty and student research with course development opportunities to create an international geology field course: GSA Abstracts with Programs Vol. 42, No. 5.
- Johnson, A.W. and **Rohs, C.R.**, 2010, Assessing the effect of international field experiences on learning in the geosciences: GSA Abstracts with Programs Vol. 42, No. 5.
- Invited presentation. Association of Missouri Geologists **Rohs, C.R.** and Johnson, A.W., 2010, Field geology of the British Isles: Combining faculty and student research with course development opportunities to create an international geology field course
- Aldieri, M., Johnson, A. W. and **Rohs, C. R.**, 2010, Petrology of the non-felsic rocks associated with the Silvermines Granite. GSA Abstracts with Programs, Vol. 42, No. 2.
- Bulen, Casey L. and **Rohs, C.R.**, 2010, Mineralogical analyses of samples from the Buchan metamorphic series near Banff, Scotland GSA Abstracts with Programs, Vol. 42, No. 2.
- Courter, Sara. J. and **Rohs, C.R.**, 2010, Petrology of volcanoclastic rocks in the Wiggins Formation, Southern Absaroka Range, Wyoming GSA Abstracts with Programs, Vol. 42, No. 2.

- Hamlin, D. B., Johnson, A.W., and **Rohs, C.R.** 2010 Field Reconnaissance in the British Isles: An undergraduate perspective. GSA Abstracts with Programs, Vol. 42, No. 2.
Invited presentation. Missouri Academy of Mathematics, Science, and Technology. Bulen, C.L. and **Rohs, C.R.**, April 2010, Highlights of Undergraduate Research in Geology
- Bennett, J. and **Rohs, C.R.**, 2009, Comparison of Archean gneisses in northern Wisconsin along the southern margin of the Superior Craton, GSA Abstracts with Programs Vol. 41, No. 4.
- Tomlin, K. and **Rohs, C.R.**, 2008, X-ray diffraction and petrographic analysis of the large diabase dike intruding the Silvermines granite in SE Missouri, GSA Abstracts with Programs, Vol. 40, No. 3.
- Rohs, C. R.**, 2008, Art meets science. Forum on Public Policy. *Submitted September 2007, Accepted January 2008.* <http://www.questia.com/library/1G1-192639895/art-meets-science>
- Rohs, C.R.** and W.R. Van Schmus, 2007, Isotopic connections between basement rocks exposed in the St. Francois Mountains and the Arbuckle Mountains, southern mid-continent, North America. International Journal of Earth Sciences, Vol. 96, p. 599-611.
- Andersen, A.K. and **Rohs, C.R.**, 2007, Petrology and geochemistry of the Absaroka volcanic province, GSA Abstracts with Programs Vol. 39, No. 3, p. 59, Lawrence, KS
- Rohs, C.R.**, 2006, Geology Assessment Modules – A Preliminary Study, GSA Abstracts with Programs Vol. 38, No. 7, Philadelphia, PA.
- Andersen, A.K. and **Rohs, C.R.**, 2006, Comparison of igneous rocks of the Absaroka Province and the Yellowstone Volcanic Terrane, GSA Abstracts with Programs Vol. 38, No. 7, Philadelphia, PA.
- Rohs, C.R.**, 2006, Mineralogy and petrology of diabase intruding the Silvermines granite in Southeast Missouri. GSA Abstracts with Programs, v. 38, n. 1
- Rohs, C.R.**, 2005, Isotopic connections in the granite and rhyolite provinces of the southern midcontinent. GSA Abstracts with Programs, v. 37, n. 3.
- Rohs, C.R.**, 2005, Meteorite or Meteor-Wrong: A comparison of meteorites with terrestrial rocks. GSA Abstracts with Programs, v. 37, n. 3
- Villines, L.E. and **Rohs, C.R.**, 2005, Unique factors and surficial processes of the reverse estuarine system in the Estero Banderitas and Puerto San Carlos. Missouri Academy of Science Meeting, April 15, 2005, Jefferson City, MO
- Donahue, K. and **Rohs, C. R.**, 2005, Quantitative analysis of crystalline textures and structures in meteorites containing free iron. GSA Abstracts with Programs, v. 37, n. 3.
- Woodland, S. and **Rohs, C. R.**, 2005, Identification and quantitative analysis of chondrules in ordinary and carbonaceous chondrite meteorites. GSA Abstracts with Programs, v. 37, n. 3.
- Barnes, M.E., Barnes, C.G., Miller, K.C., and **Rohs, C. R.**, 2005, *Episodic felsic and mafic magmatism and the growth of Southern Laurentia*, AAPG Sectional Meeting, Norman, OK, September 2005.
- Invited presentation. Central Michigan University, Department of Geology, Mt. Pleasant, Michigan. October 25, 2004 “*Meteorite or Meteor-Wrong: A comparison of meteorites with terrestrial rocks*” and “*Continental growth in North American during the Proterozoic.*”
- Collins, R. D. and **Rohs, C.R.**, 2004, Mineralogy of granite and rhyolite units in the St. Francois Mountains. GSA Abstracts with Programs, v.36, n. 2.

- Rohs, C.R.**, Goetz, S.L., and Walker, K., 2004, Mineralogy and source material for the Tolsona Mud Volcanoes in the Copper River Basin, Alaska. GSA Abstracts with Programs, v. 36 n. 3
- Van Boening, A., Goetz-Ensminger, S.L., **Rohs, C.R.**, Ham, N., 2003, Provenance of supraglacial clasts on the Matanuska Glacier, Alaska. GSA Abstracts with Programs, v. 35, n. 2
- Walker, K.N., **Rohs, C.R.**, Goetz-Ensminger, S.L., 2003 Mineralogy of the Tolsona Mud Volcanoes in the Copper River Basin, Alaska GSA Abstracts with Programs, v. 35, n. 2.
- Rohs, C.R.**, 2003, Mafic intrusions in the St. Francois Mountains of Southeast Missouri: A study of the petrology, geochemistry, geochronology, and tectonic emplacement. GSA Abstracts with Programs, v. 35, n. 2
- Rohs, C.R.** and Van Schmus, W.R., 2002, Continental growth along the southern margin of Laurentia during the late Paleoproterozoic and early Mesoproterozoic: GSA Abstracts with Programs, v. 34, n. 3, p. A-7
- Barnes, M.A., **Rohs, C.R.**, Anthony, E.Y., Van Schmus, W.R., and Denison, R.E., 1999. Isotopic and elemental chemistry of subsurface Precambrian igneous rocks, west Texas and eastern New Mexico, Rocky Mountain Geology, v. 34, n. 2, p.245-262.
- Invited presentation. International Conference on Basement Tectonics. Rolla, MO. May 19-22, 2002 *Continental growth along the southern margin of Laurentia during the late Paleoproterozoic and early Mesoproterozoic.*
- Invited presentations. Northwest Missouri State University Board of Regents meeting, February 2002, *Meteorites: The Milton meteorite* and Fairfax Kiwanis Club, March 2002

Research Funding and Experience

- Exploring the influence of latitude and equatorial bulge on planetary tectonic movement along pre-existing fracture systems*, 2020, Michigan Space Grant Consortium, \$3000
- Meteorite or Meteor-Wrong: Recognizing minerals and textures that are out-of-this-world*, 2019, Michigan Space Grant Consortium, \$5000
- Tectonics of the Southern Appalachians*, 2019, Vermeer Field Research Grant, \$1044.
- Geochemistry of coffee in connection to soils on tholeiitic basalt*. 2019, Davis Young Research Grant, \$8000
- Cu mineralization and trace metal chemistry in the Upper Peninsula of Michigan*, 2016, Davis Young Research Grant, \$7400
- Undergraduate Research Funding 2002-2014* NWMSU Approximately \$14,000
- Field research and geology of the Buchan and Barrovian metamorphic sequences in Scotland*. 2009, Applied Research Funds NWMSU \$2800
- Field geology of the British Isles*. 2008, Improvement of Teaching and Learning Funds, NWMSU \$5000
- Isotopic analysis of the Silver Mines diabase dike and Silvermines Granite in the St. Francois Mountains of SE Missouri*. Applied Research 2007, NWMSU \$4900
- High resolution mapping of mafic dikes in the Silvermines Granite, St. Francois Mountains of SE Missouri*. Applied Research 2007, NWMSU \$820
- Petrology of andesitic dike intrusions into the Absaroka Volcanic Supergroup*. Applied Research 2006, NWMSU. \$1385

Geology Assessment Modules: prototype. Applied Research 2005, NWMSU. \$3470
Isotopic and petrologic analysis of the Silver Mines diabase dike in the St. Francois Mountains.
Faculty Research 2004, NWMSU. \$3784
Meteorite or Meteor-Wrong? A comparison of meteorites with terrestrial rocks. Faculty Research
2003, NWMSU. \$1100
Clay Mineralogy of the Tolsona Mud Volcanoes, Alaska. Applied Research 2002, NWMSU. \$5400
*Mafic Intrusions in the St. Francois Mountains of Southeast Missouri: A study of the petrology,
geochemistry, geochronology, and tectonic emplacement.* Applied Research NWMSU
2001. \$2000

Service

Calvin University

Faculty Senate 2019-Present
Clean Water Institute of Calvin – Board Chair 2016-2020
Environmental Science Program Committee 2016-2017
Geology Review Committee 2016-2017

University Level – NWMSU

Faculty Senate 2008-2010, 2013-2015
Senate Executive Committee 2008-2010
Curriculum and Degree Requirements 2008-2010, chair
5-year Evaluation Review Teams
Graduate Council 2011-2013 and 2004-2006
2012-2013 Vice chair
2011-2012 Vice chair
MAGS Thesis Review Committee (2005, 2006, 2012)
Chairs Council 2010 – 2012
General Education: Designated Curriculum Matters Committee (2011-2013), chair
Presidential Search Committee 2008-2009
Student Success Task Force – Academic Subcommittee 2012-13
Foundations of Excellence 2010-2012
Subcommittee Chair – Philosophy
Strategic Planning Team 2009-2010: Emerging Academics, Faculty Support, IT, and HR
Strategic Planning Team 2009-2010: Student and Stakeholder Expectations
Accreditation: Category I Committee 2008-2009
Assessment Committee 2005-2007,
Faculty Research Committee 2002-2005, chair

Regional Level – Professional

Geological Society of America: North Central Section Board Member 2015-2018
National Geoscience Teachers Association 2015-2017: President, Central Region
National Geoscience Teachers Association 2014-2015: Vice President, Central Region
National Geoscience Teachers Association 2013-2014: 2nd Vice President, Central Region

Missouri Academy of Sciences 2008-2009: Collegiate Division Chair – Geology

Consulting: Program Assessment

University of Tennessee – Martin

Awards

CITE Fellowship, Information Technology in Science, Summer 2012, NWMSU, \$3000 awarded

Dean's Award for Excellence in Service, College of Arts and Sciences, 2009, \$800

CITE Fellowship, Senior Seminar Assessment, Summer 2005, NWMSU, \$1000 awarded

Commitment to Quality Award, Spring 2005, NWMSU

Faculty Sponsor for Student Organizations

Geo-Club 2018-19, 2011-2013, 2001-2003

Sigma Gamma Epsilon – Earth Science Honor Society 2003-2006

Administrative and Leadership Experience

Leadership Positions

Faculty Assistant to the Provost – Renamed Associate Provost

Department of Geology/Geography Department Chair

Geology Lead, Department of Natural Sciences

National Association of Geoscience Teachers

North Central Section

Graduate Council, Vice Chair

Faculty Senate: Curriculum and Degree Requirements Committee Chair – 2 years

Faculty Senate: Executive Committee – 2 years

Faculty Senate: Research Committee Chair – 3 years

Faculty Senate: Designated Curriculum Matters (General Education and Institutional Requirements) Chair – 1 year

Missouri Academy of Science – Collegiate Division Chair

Geologic Society of America: South-Central Section Session Chair

Budget experience:

Department Budget (\$78,000/yr) excluding salary and benefits

Culture of Quality funding: Improvement of Teaching and Learning (\$25,000)

Assisted Provost with faculty salary budget including COLA, salary increases or adjustments, and salary savings (Approximately \$1.5 million)

Research Committee chair (\$80,000)

Research projects as principal investigator (PI) or co-PI: \$27,190

Undergraduate Research Projects 2002-2019: Approximately \$29,400

Supervision: Faculty, staff, research assistants, office assistants, laboratory assistants, graduate assistants, undergraduate research projects

