

RUSS COLSON PUBLICATIONS:

Books (nonfiction):

- Colson R. O. and Colson M C. (2016) Learning to Read the Earth and Sky, Explorations Supporting the NGSS, Grades 6-12, NSTA Press, 426p.
- Russ Colson (2017) A Little Book of Gardening in Northwest Minnesota, Russell Colson, 110p.
- Liaq Nosloc (2020) Using Up the Cream (Russ Colson, editor), Russell Colson, 163p.
- Russ Colson 2024 Rules for Living Well (or How to Lead a Boring Life), Russ Colson, 66p.

Books (fiction):

- Russ Colson (2018) The Arasmith Certainty Principle, Double Dragon Publishing, 432p.
Chanticleer International Book Award 1rst Place Category Winner

Peer-reviewed and technical papers:

- Colson, R.O., McKay,G.A., and Taylor, L.A. (1988) Temperature and Composition dependencies of trace element partitioning: Olivine/melt and Low-Ca pyroxene/melt, Geochim. Cosmochim. Acta 52, 539-553.
- Colson, R.O. and Gust, D. (1989) Effects of pressure on partitioning of trace elements between low-Ca pyroxene and melt, Am. Miner. 74, 31-36.
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- Colson, R.O., McKay,G.A., and Taylor, L.A. (1989) Partitioning data pertaining to Fe-Mg ordering around trace cations in olivine and low-Ca pyroxene, Contr. Mineral. Petrol. 102, 242-246.
- Colson R. O. and Haskin, L. A. (1990) Lunar oxygen and metal for use in near-earth space: Magma electrolysis, In Engineering, Construction, and Operations in Space II: Volume 1 (Ed. S. W. Johnson and J. P. Wetzel), ASCE New York, 187-196.
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- Taylor, L. A., Cooper, B., McKay, D. S., and Colson, R. O. (1991) Oxygen production on the moon: Processes for different feedstocks, in Metallurgy processing fundamentals: Lunar mining and processing, Soc. of Mining, Metallurgy, and Exploration (SME) of the American Institute of Mining, Metallurgical, an Petroleum Engineers Inc. preprint 91-83.
- Colson, R. O., Haskin, L. A., and Keedy, C. R. (1991) Reinterpretation of reduction potential measurements done by linear sweep voltammetry in silicate melts, Geochim. Cosmochim. Acta 55, 2831-2838.
- Haskin, L. A. and Colson, R. O. (1991) Physical-chemical properties of silicate melts and "magma" electrolysis, in MISIM report, Magmælectrolysis of indigenous space materials, a state-of-the-art workshop, Univ. of Arizona/NASA space engineering research center, Tucson, 4-23.
- Colson, R. O. (1992) Mineralization on the Moon? : Theoretical considerations of Apollo 16 "rusty rocks", sulfide replacement in 67016, and surface-correlated volatiles on lunar volcanic glass, in Proc. Lunar and Planet. Sci. Conf. V. 22, 427-436.
- Haskin, L. A. and Colson, R. O. (1992) Steady state composition with low Fe^{2+} concentrations for efficient O_2 production by "magma" electrolysis of lunar soils, in Engineering, Construction, and Operations in Space III, V 1 (eds W. Z. Sadeh, S. Sture, and R. J. Miller), ASCE NY. 651-665.
- Colson, R. O. (1992) Solubility of neutral nickel in silicate melts and implications for the Earth's siderophile-element budget, Nature 357, 65-68.
- Haskin, L.A., Colson, R.O., Lindstrom, D.J., Lewis, R.H., and Semkow, K.W. (1992) Electrolytic smelting of lunar rock for oxygen, iron, and silicon, In Lunar Bases and Space Activities of the 21st Century (II) NASA Conference Publication 3166. V. 2 (Ed. W. W. Mendell) 411-422.
- Steele, A. M., Colson R. O., Korotev R. L., and Haskin L. A. (1992) Apollo 15 green glass: Compositional distribution and petrogenesis, Geochim. Cosmochim. Acta 56, 4075-4080.
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- Colson M. C., Colson R. O., and Nellermoe R. (2004) Stratigraphy and Depositional Environments of the Upper Fox Hills and Lower Hell Creek Formations at the Concordia Hadrosaur Site in Northwest South Dakota, *Rocky Mountain Geology v.* 39, no. 2, 93-111.
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- Colson R and Colson M (2018) Testing models through personal observation: Phases of the Moon, published in *In the Trenches* v 8, n 4, online resources. https://nagt.org/nagt/publications/trenches/v8-n4/testing_models_through_persona.html
- Colson R. O. and Leonard K. () Essay and multiple choice assessment of earth science content knowledge among earth science teachers in Minnesota and North Dakota: An evaluation of factors important in teacher preparation. In revision for submission to *J. Geoscience Education*.

Other publications, presentations, and teacher workshops

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- R. Colson, M Schoeneck, and T. Somes (2005) Teaching topics in earth science: a mini-course, for the Hands Across the Red, combined MnSTA and NDSTA annual science teacher conference, p14.
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- M. Colson and R. O Colson (2016) Igneous Cooling Rates, Crystal Size, and NOT Getting the 'Right' Experimental Results at Earth Educators' Rendezvous 2016 in Madison Wisconsin, July 21 2016.
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- Colson R O and Colson M C (2017) NSTA Press® Session: Water and People: An Example Hydrology Unit for Grades 8–12, at the NSTA STEM Forum and Expo, Orlando, FL, July 2-14, 2017.
- Colson R O and Colson M C (2017) NSTA Press® Session: Creating a Classroom Narrative: Fitting science reasoning problems and open-ended investigation into a curriculum, at the NSTA Area Conference, Milwaukee, WI, Nov 10, 2017.
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- Colson R. O and Colson M. C (2019) NSTA Press® Session Buoyancy, Glaciers, and Mountains—Physical Science Concepts in the Earth Science Classroom, hands-on workshop at the St Louis National Science Teachers Association (NSTA) National Conference, April 12, 2019.
- Colson R. O and Colson M C., (2019) Investigating Movement of Water and Energy in the Atmosphere, Share-a-thon at the National Earth Science Teachers Association (NESTA) national meeting, St Louis, April 12, 2019.
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- Colson, Russ (moderator), Bell Burnell, Jocelyn, and Consolmagno, Br Guy (2019) Epistemologies and Disciplines: Two Astronomers Meet, Dublin 2019 World Science Fiction Convention.
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- Colson, R. O., Aakash BC, Colson, F. E., Sharma, T., and Kosugi Y. (2020) Preliminary experiments to constrain the effect of Cl on the activity of NiO in silicate melts using diffusion profiles of Ni in Pt wire loops, LPSC 51, 1502—(published 2-page abstract only—conference was cancelled).
- Colson, Russ (2020) Effect of writing science fiction on understanding of geological concepts—preliminary results of a study in progress, Jan 7, 2020, The Teachers Corner, Issues in Earth Science, <http://earthscienceissues.net/eartheachblog/2020/01/07/effect-of-writing-science-fiction-on-understanding-of-geological-concepts-preliminary-results-of-a-study-in-progress/>
- BC, Aakash, Sharma T, Grosz, B, Kosugi, Y, Colson, R. and Colson F. (2020) Use of Pt-Melt Equilibration and Electrochemical Experiments to Constrain the Effect of Cl on NiO Activity in Silicate Melts, North Central GSA, Duluth, MN (abstract only, poster was cancelled)
- Colson, M. C. and Colson R. O. (2020) Learning About versus Figuring Out: Transforming traditional lessons into 3-dimensional lessons, Minnesota Minerals Education Workshop (MMEW), Winona State University, June 23, 2020. (cancelled)
- Colson R. O. and Colson, M. C (2021) Experimental Investigation: The Effect of Temperature on Deformation Character of Rock, presented as part of the workshop ESTEP: Professional Development for Teachers of the new 6th grade Earth Science Standards, at Bemidji MN July 27-28, Eden Prairie MN, Aug. 3-4, and Champlin MN, Aug 10-11. 5 hour workshop
- Colson, M. C. and Colson R. O. (2021) Modeling Motions in Space: Phases of the Moon, presented as part of the workshop ESTEP: Professional Development for Teachers of the new 6th grade Earth

- Science Standards, at Bemidji MN July 27-28, Eden Prairie MN, Aug. 3-4, and Champlin MN, Aug 10-11. 7 hour workshop.
- Colson R. O. and Colson, M. C (2022) Experimental Investigation: The Effect of Temperature on Deformation Character of Rock, presented as part of the workshop ESTEP: Professional Development for Teachers of the new 6th grade Earth Science Standards, at Metro State Univ Minneapolis MN July 19-20, and at Alexandria MN July 19-20. 5 hour workshop
- Colson, M. C. and Colson R. O. (2021) Modeling Motions in Space: Phases of the Moon, presented as part of the workshop ESTEP: Professional Development for Teachers of the new 6th grade Earth Science Standards, at Metro State Univ Minneapolis MN July 19-20, and at Alexandria MN July 19-20. 7 hour workshop.
- Colson R. O. Colson, M. C., Schoeneck M and Kalina H. (2022) Investigations in Water and Rock An ESTEP Geology Workshop for High School Educators, at Minnesota State University Moorhead, Moorhead MN July 25-29, 5 day workshop
- Bloodgood D, Grosz B, Bordwell B, Colson R (2023) XRF Analysis of Pb Concentrations in Soils in and near Moorhead, MN, presented at the National CUR conference in University of Wisconsin-Eau Claire, Eau Claire, WI, April 14, 2023.
- Colson R. O. Colson, M. C., Schoeneck M and Kalina H. (2023) Investigations in Water and Rock An ESTEP Geology Workshop for High School Educators, at Minnesota State University Moorhead, Moorhead MN July 24-28, 5 day workshop

