

MATTHEW E. BRUESEKE

CURRICULUM VITAE

Department of Geology
Kansas State University
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EDUCATION

2006: Ph.D. (Geology), Miami University, Oxford, OH

Dissertation: Mid-Miocene magmatic system development in the northwestern United States.

Ph.D. Advisor: Dr. William K. Hart; Ph.D. committee members: Elisabeth Widom, Brian Currie, Michael Brudzinski, John Hughes, and Michael Pechan.

1997: A.B. (Geology, minor in Physical Geography), Miami University, Oxford, OH

Senior project: Chronostratigraphy and volcanic stratigraphy of Hagerman Fossil Beds National Monument, Idaho (USA).

HONORS AND AWARDS

2023: Elected, Geological Society of America Fellow

2021: Geology Department Undergraduate Teaching and Mentoring Award

2019: Page Twiss Faculty Development Award for Excellence in Graduate Advising and Teaching (inaugural award), Kansas State University Department of Geology

2019-20: Kansas State University Goals and Values in Science Faculty Fellowship

2018-2019: Big 12 Faculty Fellowship (awarded to work with Graham Andrews, West Virginia University. Project focused on testing kimberlite emplacement models).

2018: 2018 Honorary Award recipient (Rocky Mountain Federation of Mineralogical and Lapidary Societies for the AFMS Scholarship Foundation)

2015: Nominated for Kansas State University College of Arts and Sciences undergraduate teaching awards

2012: Nominated for Kansas State University College of Arts and Sciences undergraduate teaching awards

2010-2011: Kansas State University Peer Review of Teaching Program Fellow

2008: Elected member of the Graduate Faculty, Kansas State University

2002: Brunton Award, Miami University Department of Geology. For outstanding contribution to field geology education

2000: Elected member of Phi Kappa Phi, academic honor society

1999: Elected member of Sigma Xi, scientific research society

1999: Certificate of merit for research achievements, Miami University Department of Geology

1997: Dean's List, Miami University, fall and spring semesters

1996: H. Van der Veer Hilker Memorial Scholarship Recipient, Miami University Department of Geology
Awarded to a junior geology major on basis of academic achievement and potential contribution to the community

TEACHING

Positions Held

Professor and Acting Department Head:

April 2022 - June 2022: Kansas State University. Responsible for leadership of the Department, including oversight of the day-to-day operations of the Department of Geology, initiating policy discussions among faculty and staff, and promoting a culture of openness and shared governance. Led the initial Academic Program Review and Revitalization (APRR) initiative for the department; this included writing APRR reports for our degree programs.

Professor and Director of Graduate Studies:

March 2020 - present: Kansas State University. See Associate Professor information below. Responsible for answering inquiries about Geology M.S. degree program at K-State and handling graduate student applications for admission. Revised graduate application procedures and requirements, including leading the effort to drop the GRE scores for admission and instead utilize other more inclusive admission criteria.

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Associate Professor (with tenure) and Director of Graduate Studies:

August 2013 – March 2020: Kansas State University. Courses taught include Earth in Action (on campus as large lecture and as an ~20 student First-Year Seminar), Mineralogy, Petrology (Igneous/Metamorphic/Sedimentary), Advanced Igneous and Metamorphic Petrology, X-Ray Methods, Regional Geology (field-based) and Economic Geology. Mineralogy and Petrology include lab sections, in which I am the primary instructor and also supervise graduate teaching assistants. Responsible for answering inquiries about Geology M.S. degree program at K-State and handling graduate student applications for admission.

Assistant Professor and Interim Director of Graduate Studies:

July 2007 – August 2013: Kansas State University. Courses taught include Earth in Action (on campus, via distance education, and as a First-Year Seminar that I developed centered on active learning), Natural Disasters First-Year Seminar, Mineralogy, Petrology (Igneous/Metamorphic/Sedimentary), Structural Geology, Economic Geology, Regional geology (field-based including Death Valley N.P., tectonic evolution of the Snake River plain - Yellowstone volcanic province), and Advanced Igneous Petrology. Mineralogy, Petrology, and Structural Geology include lab sections, in which I am the primary instructor. Also, I supervised undergraduate/graduate teaching assistants for Mineralogy, Petrology, and Structural Geology. Responsible for answering inquiries about Geology M.S. degree program at K-State and handling domestic graduate student applications for admission.

Instructor:

August 2005 - May 2007: Eastern Illinois University. Courses taught include introductory Weather and Climate, a Senior Seminar covering local/global environmental issues (Spaceship Earth), introductory Earth Science (physical geology), Mineralogy, Igneous/Metamorphic Petrology, Tectonics, and Honors Spaceship Earth. Weather and Climate, Earth Science, Mineralogy, and Igneous/Metamorphic Petrology are all lecture-based and each has at least one additional laboratory section that I taught. I also supervised undergraduate teaching assistants for Mineralogy, Igneous/Metamorphic Petrology, Earth Science, and Weather and Climate.

Instructor:

2001 - 2006, 2013: Miami University Geology Field Station (www.muohio.edu/fieldgeology). Primary duties included day-to-day teaching, supervision of graduate student teaching assistants, and assisting with the organization and planning (pre- and during course logistics and content), and pedagogy of Miami University's five-week geology field course. Course emphasis is placed on understanding the geologic history of western North America through the description, interpretation, and mapping of local/regional units, structures, and other geologic phenomena throughout the Snake River Plain-Yellowstone volcanic province, the northern Rocky Mountains of the United States and Canada, and the greater Yellowstone region, WY-ID-MT and Wind River Basin, WY.

Teaching Assistant:

March 2003: Geology of the Rio Grande Rift (Field-based in New Mexico)

March 2002: Geology of Big Bend National Park (Field-based in Texas)

1998 - 2000: Courses taught were: Miami University Geology Field Station (field camp), Mineralogy, Igneous and Metamorphic Petrology, Geology of U.S. National Parks, Understanding the Earth (introductory geology laboratory), and the Dynamic Earth (introductory physical geology)

1998: Carbonate Depositional Systems (Field-based in San Salvador, Bahamas and Florida)

Undergraduate Teaching Assistant:

1997: Understanding the Earth (physical geology laboratory)

Education/Teaching Professional Development

2022: Participant, Subduction Zones in 4 Dimensions (SZ4D) workshop at 2022 GSA annual meeting.

2021: Participant, America's Geoheritage II: Identifying, developing, and preserving America's natural history (U.S. National Academy of Sciences) – Writing Workshop, January 10-15 2021.

2020: Participant, NSF-NAGT-IAGD sponsored "Designing remote field experiences" zoom-based workshops in response to the COVID-19 pandemic.

2019: Participant, NSF, NAGT, and ExxonMobil sponsored "Focusing the lens on field safety: a workshop for field trip leaders" (November, University of Iowa)

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2014: Participant, NSF sponsored “Summit on the Future of Undergraduate Geoscience Education” (January, University of Texas - Austin)
2013: Participant, Kansas State University 2013 Spring Teaching Workshop
2010-2011: Participant, Kansas State University Peer Review of Teaching Program
2011: Participant, 8th annual K-State teaching retreat (January).
2008: Participant, NSF/NAGT sponsored “On the Cutting Edge - Teaching introductory geoscience courses in the 21st century” workshop (July).
2008: Participant and was a primary presenter at NSF/NAGT/GSA sponsored “On the Cutting Edge - Teaching petrology and structural geology in the 21st century” workshop (October).
2007-08: Graduate, K-State New Faculty Institute

RESEARCH

Interests

My geologic interests are broad, but primarily lie in the fields of igneous petrology, tectonics, economic geology, and volcanology. These interests are focused on understanding: [1] how magmas form and are modified; [2] relationships between volcanism and tectonism; [3] temporal, spatial, and mass relationships between magmatism and precious metal mineralization; [4] physical volcanology of silicic magmatic products and their eruptive systems; [5] volcanic stratigraphy, including tephrostratigraphy. This experience is centered on the mixed volcanic-sedimentary terranes of the western/central Snake River Plain, Oregon Plateau, and northern Great Basin; in the Wrangell Mountains and other parts of South-Central Alaska; in Precambrian through Quaternary terranes of the greater Wind River basin-Yellowstone region, Wyoming and Centennial Valley and vicinity, southwest Montana, and in Oklahoma and Kansas (U.S.A.).

Positions Held

Research Associate:

2004 - 2005: Department of Geology, Miami University. Primary duties included the field and laboratory investigation of western United States volcanic terrains. I worked closely with graduate and undergraduate students and other support staff to help prepare and perform chemical and Sr-Nd-Pb isotopic analyses of geologic materials by thermal ionization mass spectrometry (TIMS). I also prepared geologic materials for major (DCP-AES) and trace (DCP-AES, XRF, and ICP-MS) element geochemical analyses, helped maintain departmental equipment, and ordered supplies.

Research Assistant:

2000 - 2004: Department of Geology, Miami University. Principal duties included sample preparation of whole rock and purified glass separates for major and trace element geochemical analyses. This included the initial collection in the field and the subsequent rock crushing, thin section blank cutting, clean laboratory work necessary for analyses, and data collection. I also prepared whole rock samples for ⁴⁰Ar/³⁹Ar geochronology, performed electron microprobe analyses on select phases (at the University of Kentucky), performed petrographic analysis of igneous materials, purchased laboratory supplies, and organized/purchased supplies for fieldwork and the laboratory.

Research Assistant:

1997 - 1998: Department of Geology, Miami University. Responsibilities included sample preparation of basalt and unconsolidated tephra for major and trace element analyses (DCP-AES). This involved concentrating/purifying bulk glass separates by magnetic/heavy liquid separation techniques, and clean laboratory techniques prior to analyses.

Internal and External Funding (awarded; amount received in bold)

2020: National Science Foundation RAPID: Collaborative Proposal: Development of Digital Models of Minerals and Rocks for Online Geoscience Classes. PI: G. Andrews (West Virginia U.), CO-PI: Brueseke. 8/1/2020-present, **\$16,864**.
2020: National Science Foundation, Collaborative Research: Investigating out-of-sequence magmatism and mantle plume-lithosphere interactions adjacent to the Snake River plain (U.S.A.). PI: Brueseke, CO-PI: J. Benowitz (UA-Fairbanks) 9/1/2020-present, **\$240,385**

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- 2020: National Science Foundation RAPID: PetCAT-Scan: A high definition scanning tool for geoscientists in the COVID-19 pandemic and beyond. PI: B. Lacroix, CO-PIs: Brueseke, P. Kempton (all KSU). 7/15/2020-2022, **\$169,220**.
- 2020: Kansas State University Small Research Grant, Investigating links between <5 million yr. old basaltic volcanism in the Centennial Valley Region and the Yellowstone hotspot. PI: Brueseke, 5/1/2020-4/30/2021, **\$4,428**.
- 2018: American Federation of Mineralogical Societies Scholarships, awarded to Brueseke to disburse. **\$8,000**.
- 2018: 2018-19 Big 12 Faculty Fellowship: Evaluating kimberlite ascent mechanisms: insights from the Cretaceous volcanoes of Riley County, Kansas (USA). PI: Brueseke, **\$2,312**.
- 2016: National Science Foundation REU Supplement, Collaborative Research: Geological constraints on ~25 Million years of magmatism along an arc-transform junction, Wrangell Volcanic Belt, Alaska. PI: Brueseke. **\$4,880**.
- 2016: Federal Railroad Administration, Field investigation of concrete tie abrasion wear prevalence and contributing environmental factors. PI: K. Riding (KSU), CO-PIs: R. Peterman (KSU) and M. Brueseke. **\$149,991**.
- 2015: National Science Foundation, Collaborative Research: Geological constraints on ~25 Million years of magmatism along an arc-transform junction, Wrangell Volcanic Belt, Alaska. PI: Brueseke, CO-PI: J. Benowitz (UA-Fairbanks), J. Trop (Bucknell), and Paul Layer (UA-Fairbanks). 2/10/2015 – 1/31/2018, **\$173,117**.
- 2014: Kansas State University Small Research Grant, Rare earth element economic potential of Pilot Knob, a Pliocene(?) alkaline intrusive complex in the greater Yellowstone region, northwestern Wyoming. PI: Brueseke, 2014-2015, **\$4000**.
- 2013: Kansas State University - College of Arts and Sciences Proposal for Larger Equipment Purchases – Partial support for a new X-Ray diffractometer: PI: P. Kempton, CO-PI: S. Datta and M. Brueseke, **\$180,000**.
- 2012: Kansas State University Small Research Grant, Mid-Miocene magmatism in the northern Great Basin (USA): Links between local Au-Ag precious metal mineralization and the inception of the Yellowstone hotspot. PI: Brueseke, 2012-2013, **\$2500**.
- 2009: National Science Foundation, K-State TEACH Program (Robert Noyce Scholarship). PI: C. Culbertson, former PI: L. Scharmann, CO-PI's: C. Ferguson, N.S. Rebello, M. Brueseke, former CO-PI: I.M. Totten. 6/15/2009-5/31/2014, **\$875,359** (<http://www.coe.k-state.edu/grants/teach/>).
- 2009: National Science Foundation, Collaborative Research: Magmatism and mineralization in the Owyhee Mountains, ID: A case study of mid-Miocene Au-Ag ores and the emergence of the Yellowstone Hotspot. PI: Brueseke, CO-PI's: J. Saunders & W. Hames (Auburn Univ.). 9/15/09-8/31/14, **\$162,082**.
- 2009: NASA Kansas Space Grant Consortium, Voluminous mafic volcanism on Earth: Field, geochronologic, and geochemical constraints on the temporal and spatial extent of mid-Miocene flood basalt volcanism on the Oregon Plateau (USA). PI: Brueseke, 1/31/09-12/31/09, **\$12,118**.
- 2007: Kansas State University Small Research Grant, Magmatism and mineralization in the Owyhee Mountains, ID: A case study of mid-Miocene Au-Ag ores and Pacific Northwest (U.S.A.) flood basalt volcanism. PI: Brueseke, 2007-2008, **\$2500**.
- 2004: Geological Society of America, Cordilleran section student travel grant, **\$500**.
- 2004: Miami University DUOS (Doctoral-Undergraduate Opportunities in Scholarship; <http://www.users.muohio.edu/shorec/DUOS/duos.htm>) program with Jacob Knight, **\$1000**.
- 2003: Geological Society of America, Cordilleran section student travel grant, **\$185**.
- 2002: Geological Society of America, Cordilleran section student travel grant, **\$475**.
- 2001: Geological Society of America, Student Research Grant, **\$1875**.
- 1999: Geological Society of America, Rocky Mt. section student travel grant, **\$350**.
- 1999: Miami University Graduate Student Association Travel Assistance Award, **\$150**.
- 1998: Geological Society of America, Student Research Grant, **\$1500**.

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Student Mentee Research Funding (\$42,821 total)

2023: Celine Mazella, KSU College of Arts and Sciences Research Travel award, **\$400**
2022: Alex Bearden, GSA/NSF student research grant, **\$2500**
2022: Alex Bearden, Alaska Geological Society – Don Richter Memorial Scholarship, **\$2000**
2022: Alex Bearden, NSF/GSA travel grant, **\$500**
2022: Alex Bearden, KSU Graduate student council travel award, **\$400**
2022: Alex Bearden, KSU College of Arts and Sciences Research Travel award, **\$400**
2022: Alex Bearden, Association of Earth Science Clubs of Greater KC Grant, **\$500.**
2021: Alyssa Endrich, Geological Society of America Student Research Grant – Lipman Student Research grant, **\$2500.**
2021: Alyssa Endrich, Tobacco Root Geological Society Field Scholarship, **\$1000.**
2021: Alyssa Endrich, KSU Graduate student council travel award, **\$400**
2021: Alyssa Endrich, KSU College of Arts and Sciences Research Travel award, **\$400.**
2021: Alyssa Endrich, South Central GSA section travel grant, **\$300**
2021: Alex Karrasch, KSU College of Arts and Sciences Research Travel award, **\$400**
2019: Emily Fenner, Geological Society of America Student Research Grant, **\$2,600.**
2019: Emily Fenner, Society of Economic Geologists Student Research Grant, **\$1,183.**
2018: Pat Manselle, KSU College of Arts and Sciences Research Travel award, **\$800.**
2018: Emily Fenner, American Federation of Mineralogical Societies Scholarship, **\$4,000.**
2018: Pat Manselle, Alaska Geological Society – Don Richter Memorial Scholarship, **\$2000.**
2017: Maridee Weber, KSU College of Arts and Sciences Research Travel award, **\$800.**
2017: Maridee Weber, KSU Office of Undergraduate Research & Creative Inquiry travel grant, **\$1000.**
2017: Chris Wierman, Society of Economic Geologists Student Research Grant, **\$2800.**
2017: Chris Wierman, Geological Society of America Student Research Grant, **\$1488.**
2016: Maridee Weber, KSU College of Arts and Sciences Research Travel award, **\$800.**
2016: David Martin, KSU College of Arts and Sciences Undergraduate Research award, **\$1000.**
2015: Anna Maynard, Geological Society of Nevada (Elko Chapter), **\$1000.**
2015: Anna Maynard, Geological Society of America Student Research Grant, **\$1100.**
2014: Caleb Dodd, Society of Economic Geologists Student Research Grant, **\$2000.**
2014: Anna Downey, Geological Society of America Student Research Grant, **\$900.**
2014: Anna Downey, Tobacco Root Geological Society Field Scholarship, **\$500.**
2014: Anna Downey, Wyoming Geological Association J.D. Love scholarship, **\$1000.**
2014: Anna Downey, Kansas Geological Foundation research scholarship, **\$1000.**
2014: Jasper Hobbs, AAPG Grants-in-Aid (Grants-in-Aid Committee Named Grant), **\$1500.**
2014: Jasper Hobbs, KSU-Chapter Sigma Xi Student Research Grant, **\$400.**
2013: Benjamin Hamill, KSU-College of Arts and Sciences Undergraduate Research award, **\$250.**
2012: Bill Busch, Geological Society of America Student Research Grant, **\$2,000.**
2012: Kate Amrhein, Geological Society of America Student Research Grant, **\$1,500.**
2011: Casey Bulen, AAPG Grants-in-Aid (Barrett Family Named Grant), **\$500.**

Primary Student Mentoring

20 M.S. students (all at KSU; KSU geology does not have a Ph.D. program):

Wyatt Everhart, 2023-present, Tectonic implications of ca. 30-20 Ma volcanism in southwestern Montana (U.S.A.), **M.S. in progress.**
Kyle Broley, 2022-present, Spatial-temporal characteristics of the Eocene Challis-Absaroka belt (U.S.A.): volcanic arc or not?, **M.S. in progress.**
Alex Bearden, 2020-2023, On the Maclaren River volcanic field: Petrogenesis of Pleistocene Yakutat slab tear volcanism in south-central Alaska, (USA), **M.S.**
Alyssa Endrich, 2020-present, Petrogenesis of basalts in the Centennial Valley, MT and vicinity; off-axis volcanism related to the Yellowstone hotspot?, **M.S. in progress.**
Alex Karrasch, 2020-present, Mantle plume-lithosphere interactions adjacent to the Snake River plain (U.S.A.) in northwest Wyoming, **M.S. in progress.**

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Emily Fenner, 2018-2020, Geochemical and mineralogical characterization of low-sulfidation epithermal deposit sinter, Milestone Deposit, Owyhee Mountains, ID, **M.S.**

Pat Manselle, 2017-2019, Physical volcanology, sedimentology and geochemistry of the Mid-Cretaceous Chisana Formation, south-central Alaska: implications for models of Wrangellia composite terrane accretion, **M.S.**

Chris Wierman, 2016-2018, Copper partitioning in Mid-Miocene flood basalts from the northern Great Basin (U.S.A): implications for Cu behavior in flood basalt provinces, **M.S.**

Beth Morter, 2015-2017, Petrography, geochemistry, and geochronology of volcanic clasts from Wrangell Mountains rivers: Characterizing the tempo of Wrangell Volcanic belt, Alaska (USA) magmatism **M.S.**

Sam Berkelhammer, 2015-2017, Initiation of the Wrangell arc: A record of tectonic changes in an arc-transform junction revealed by new geochemistry and geochronology of the ~29–18 Ma Sonya Creek volcanic field, Alaska, **M.S.**

Anna Maynard, 2014-2016, Cu isotope compositions of Cenozoic mafic rocks from the northern Great Basin and Snake River Plain (USA), **M.S.**

Anna Downey, 2014-2015, Cenozoic mafic to intermediate volcanism at Lava Mountain and Spring Mountain, Upper Wind River Basin, Wyoming, **M.S.**

Caleb Dodd, 2014-2015, Petrogenesis and rare earth element economic potential of Pilot Knob, a Pliocene(?) alkaline intrusive complex in the Togwotee Pass region, northwestern Wyoming (U.S.A), **M.S.**

Jasper Hobbs, 2013-2015, Petrologic Geochemical/isotope constraints on Cambrian basalt volcanism in the Southern Oklahoma Aulocogen, **M.S.**

Andrew Ingalls, 2012-2014, Reconnaissance Cenozoic volcanic geology of the Little Goose Creek area, northeastern Elko County, NV with an emphasis on the Jarbidge Rhyolite, **M.S.**

Bill Busch, Mid-Miocene mafic magmatism in the vicinity of Midas, NV: Implications for the timing and development of local Au-Ag precious metal mineralization, M.S. in progress

Kate Amrhein, 2011-2013, Testing models of low- $\delta^{18}\text{O}$ silicic magmatism in the mid-Miocene Santa Rosa-Calico volcanic field, NV, **M.S.**

Casey Bulen, 2010-2012, The Role of Magmatism in the Evolution of the Cambrian Southern Oklahoma Rift Zone: Geochemical Constraints on the Mafic-Intermediate Rocks in the Arbuckle Mountains, OK. **M.S.**

Zachary Hasten, 2010-2012, Mid-Miocene magmatism in the Owyhee Mountains, ID: origin and petrogenesis of volcanic rocks in the Silver City District. **M.S.**

Jeffery Callicot, 2008-2010, Significance of Mid-Miocene volcanism in northeast Nevada: petrographic, chemical, isotopic, and temporal importance of the Jarbidge Rhyolite, **M.S.**

27 undergraduate students (at KSU unless noted):

Celine Mazella, 2023 - present, Physical volcanology and geochemistry of the Flat Creek basalt: a Miocene(?) eruptive center in Jackson Hole, WY. **B.S.**

Quinton Mindrup, 2022-present, Li concentrations in Cenozoic northern Great Basin (U.S.A.) rhyolites. **B.S.**

Isaiah Euhler, 2021-2022, 3D models of minerals and rocks; getting the word out via social media (e.g., Instagram and Twitter). **B.S.**

Cara Gunzleman, 2020-2021, 3D models of minerals and rocks; getting the word out via social media (e.g., Instagram and Twitter). **B.S.**

Ben Walters, 2019-2021, Petrology of Cenozoic igneous rocks adjacent to the Snake River plain, WY/ID; tectonic implications of off-track Snake River Plain-Yellowstone volcanism. **B.S.**

Sarah Green, 2019-2020, Petrology and crystal chemistry of Cenozoic basalts from the Centennial Valley, Montana. **B.S.**

Gergely Motolai, 2019, Soil volume changes during water-ice transition, **B.S.**, Horticulture and Natural Resources

Maridee Weber, 2016-2019, Geochemistry and tectonic significance of hypabyssal intrusives (map units Th/Tp) across the Wrangell Arc (AK) and implications for adakite petrogenesis and slab-edge melting. **B.S.**

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- David Martin*, 2016-2018, Crystal chemistry of feldspar and pyroxene from Miocene Jarbidge Rhyolite lavas (NV). **B.S.**
- Wyatt Risovi-Hendrickson*, 2016-2107, Lithologic and characterization of railroad ballast and fines for evaluation of track abrasion damage. Civil Engineering **B.S.**
- Victoria Fitzgerald*, 2016, Geochemical characterization of Wrangell arc lavas from Green Hills section (AK). **B.S.**
- Ryan Keast*, 2015-2016, Petrogenesis of Euchre Mountain volcanism: potential leaky strike-slip volcanism along the Totschunda Fault, Wrangell Arc (AK). **B.S.**
- Clay Robertson*, 2015, Characterization of xenoliths from the Fancy Creek, KS kimberlite, **B.S.**
- Ben Hamill*, 2013, Creation of a dynamic digital geologic map of the Owyhee Mountains, ID in Google Earth, **B.S.**
- Caleb Akerstrom*, 2011-2013, Geochemical characterization of Cambrian mafic well-cuttings from the Turner Falls test well, OK (U.S.A.), **B.S.**
- David Kowal*, 2012-2013, Creation and integration of a visual mineral database into Mineralogy and Petrology coursework, **B.S.**
- Tyler Meek*, 2011-2012, Oxygen isotopes values of igneous rocks from the Owyhee Mts., ID, **B.S.**
- Jason Kolb*, 2010-2011, Petrography and geochemistry of Cretaceous granitoids from the Owyhee Mts., ID, **B.S.**
- Eric Whiting*, 2010-2011, Metamorphic rocks of the Flint District (Owyhee Mts.), ID, **B.S.**
- Abby Lynch*, 2010, Provenance of Quaternary Lake Kaw sediments, KS, **B.S.**
- Chris Cook*, 2009-2010, Petrology of Eocene ash flow tuffs in the vicinity of Jarbidge, NV, **B.S.**
- Josh Foster*, 2009- 2010, Mid-Miocene volcanism in the Silver City District, ID, **B.S.**
- Kendra Risen*, 2007-2008, Mafic(?) intrusive magmatism in the Oregon-Idaho graben, OR, **B.S.**
- Jacob Knight*, 2003-2005, Characterization of ash flow volcanism in the Santa Rosa-Calico volcanic field, NV (Miami U.), **B.S.**
- Lauren Gilbert*, 2001-2002, Tephrostratigraphy of the Santa Rosa-Calico volcanic field, NV (MU), **B.S.**
- Amy Maloy*, 2001-2002, Generation of intermediate magma in the Santa Rosa-Calico volcanic field, NV (Miami U.), **B.S.**
- Becki Witherow*, 2001, Topic: Sr isotopic analyses of late Cenozoic basalts from the Owyhee Plateau, OR/NV (Miami U.), **B.S.**

M.S./Ph.D. Thesis and Dissertation Committee Member (all KSU)

- Luqman Olawale*, Department of Geology, 2023-present.
- Minindu Gedara*, Department of Geology, 2023-present.
- Ali Roustazadeh*, Department of Geology, 2022.
- Claudia Morello*, PhD. student, Dept. of Physics, 2021-present.
- Vidhesh Shukla*, Department of Geology, 2021-2023.
- William Jarvis*, Department of Geology, 2021-present.
- Carrie Brooks*, Department of Geology, 2021-present.
- Mikaela Rader*, Department of Geology, 2019-2021.
- Hallie Bruce*, Department of Geology, 2019-present.
- Madison Smith*, Department of Geology, 2019-2021.
- Brayton Pew*, Department of Geology, 2019-2021.
- Joshua Ford*, Department of Geology, 2018-2020.
- Kayleigh Rodgers*, Department of Geology, 2017-present.
- Nina Ataee*, Department of Geology, 2017-2019.
- Grant Zwiefelhofer*, Department of Geology, 2015-present.
- Jacob Hughes*, Department of Geology, 2015-2018.
- Michelle Berube*, Department of Geology, 2015-2017.
- Jan Vosahlik*, PhD. student, Dept. of Civil Engineering, 2015-2018.
- Outside Chair for PhD., Shahin Nayyri Amiri*, Dept. of Mech. and Nuclear Engineering, 2014-2018.
- Michael Tummons*, Department of Geology, 2014-2017.
- Jamie Harrington*, Department of Geology, 2014-2015.

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Sultan Alkhamalli, Department of Geology, 2013-2015.
Shovon Barua, Department of Geology, 2013-2015.
Kolle Kahle-Riggs, Department of Art, 2013-2015.
Brent Campbell, Department of Geology, 2013-2015.
Saad Abdullah Almalki, Department of Geology, 2011-2013
Sankar Manalilkada Sasidharan, Department of Geology, 2011-2013
Chad Hobson, Department of Geology, 2011-2013.
Andrea Leggett, Department of Geology, 2011-present.
Amelia Fader, Department of Geology, 2011-2012.
Angela Tran, Department of Agronomy, 2011-2012.
Robin Barker, Department of Geology, 2010-2012.
O.C. Eke, Department of Geology, 2009-2011.
Mohammed Al Salim, Department of Geology, 2011 (MS report option).
Andy Neal, Department of Geology, 2008-2010.

Student Mentee Honors/Awards

Alex Bearden, 2022, American Geophysical Union Outstanding Student Presentation Award winner (2022 Fall AGU meeting, Chicago IL)
Emily Fenner, 2019, Second Place, Student Poster Contest (American Exploration & Mining Association annual meeting)
Jasper Hobbs, 2015, First Place, Oral Presentation (Ecology, Environmental and Earth Sciences - 2015 Emerging Researchers National Conference in STEM)
Casey Bulen, 2012 1st place oral presentation (Engineering, Math, and Physical Sciences), K-State Student Research Forum
Tyler Meek, 2011-2012 KSU Chapman Scholar
Andrew Ingalls, 2013-2014 National Science Foundation GK-12 fellowship
Zachary Hasten, 2011-2012 National Science Foundation GK-12 fellowship
Jeffery Callicoat, 2009-2010 National Science Foundation GK-12 fellowship
Kendra Risen, 2007-2008, Intern, KSU Campus Internship Program (CSI)

PEER-REVIEWED PUBLICATIONS (accepted, published; *=student mentee)

- Brueseke, M.E., *Morter, B.K., Benowitz, J.A., Trop, J., Mertzman, S.A., Kirby, C.S., and Davis, K., 2023, What lies beneath the ice? Using the geochemistry and geochronology of modern river cobbles to better decipher the evolution of a glaciated volcanic arc (Wrangell Arc, Alaska, U.S.A.): *Volcanica*, 6, p. 313-329, <https://doi.org/10.30909/vol.06.02.313329>
- Brueseke, M.E., Benowitz, J.A., *Bearden, A.T., Mann, M.E., and Miggins, D.P., 2023, Subduction Disruption, Slab Tears: ca. 1 Ma true collision of an ~30-km-thick oceanic plateau segment recorded by Yakutat slab nascent tear magmatism: *Terra Nova*. 00, 1–9. <https://doi.org/10.1111/ter.12628>
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- *Manselle, P., Brueseke, M.E., Trop, J.M., Benowitz, J.A., Snyder, D.C., and Hart, W.K., 2020, Geochemical and stratigraphic analysis of the Chisana Formation, Wrangellia terrane, eastern Alaska: Insights into Early Cretaceous magmatism and tectonics along the northern Cordilleran margin: *Tectonics*, <https://doi.org/10.1029/2020TC006131>
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- Trop, J.M., Benowitz, J.A., Koepp, D., Sunderlin, D., Brueseke, M.E., Layer, P.W., Fitzgerald, P., 2019., Stitch in the Ditch: Fluvial strata and a Totschunda fault zone dike in the Nutzotin Mountains (Alaska) record ~117 Ma suturing between the Wrangellia terrane and western North America and initiation of the Totschunda fault zone by ~114 Ma: *Geosphere*, v. 16. p. 1-29. <https://doi.org/10.1130/GES02127.1>
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Field Trips to the Basin and Range, Rocky Mountains, Snake River Plain, and Terranes of the U.S. Cordillera: *Geological Society of America Field Guide 21*, p. 27–66.

- Brueseke, M.E., 2011, Magmatism and mineralization in the northern Great Basin: mid-Miocene volcanism related to the inception of the Yellowstone hotspot and its relationship to regional bonanza ore deposits: *Geological Society of Nevada, Great Basin Evolution and Metallogeny*, p. 247–255
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- Brueseke, M.E., Hart, W.K., and M.T. Heizler, 2008, Diverse mid-Miocene silicic volcanism associated with the Yellowstone-Newberry thermal anomaly: *Bulletin of Volcanology*, v. 70, p. 343–360
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NON PEER-REVIEWED CONFERENCE PROCEEDINGS AND REPORTS (*=student mentee)

- Contributed to National Academies of Sciences, Engineering, and Medicine. 2021. *America's Geoheritage II: Identifying, Developing, and Preserving America's Natural Legacy: Proceedings of a Workshop*. Washington, DC: The National Academies Press., 47p. <https://doi.org/10.17226/26316>
- Riding, K.A., Peterman, R.J., Guthrie, S., Brueseke, M., Mosavi, H., Daily, K., 2017, Environmental and track factors that contribute to abrasion damage: Final report to U.S. Department of Transportation, Federal Railroad Administration. 242p.
- Saunders, J.A., Kamenov, G.D., Mathur, R., Shimizu, T., and Brueseke, M.E., 2013, Transport and deposition of metallic nanoparticles and the origin of bonanza epithermal ores: *Biennial SGA Proceedings*, Uppsala, Sweden, August, 2013
- Hart, W.K. and M.E. Brueseke, 1999, Analysis and Dating of Volcanic Horizons from Hagerman Fossil Beds National Monument and a Revised Interpretation of Eastern Glenns Ferry Formation Chronostratigraphy, A Report of Work Accomplished and Scientific Results: Hagerman Fossil Beds National Monument, National Park Service, 37p. NPS Report No.: 1443-PX9608-97-003

NON PEER-REVIEWED BOOK/JOURNAL/OTHER ARTICLES/DATABASES

- The leading edge of the Snake River Plain – Yellowstone volcanic province: <5 million-year-old volcanism around Dubois, Wyoming, 10/24/2022, Brueseke, M.E., Yellowstone Volcano Observatory Caldera Chronicles. <https://www.usgs.gov/observatories/yvo/news/leading-edge-snake-river-plain-yellowstone-volcanic-province>
- Searchable Sketchfab.com rock & mineral catalog, 2020, Andrews, G., Brueseke, M., Himelstein, A, McFarland, R.I. A searchable catalog of 3D digital models hosted on Sketchfab.com. Rock & mineral catalog (Version 1.0) [Data set]. Zenodo. <https://zenodo.org/record/3988525#.YWWzpXlOnBI>
- Why Alaskan summers rock, 2016, Brueseke, M.E. College of Arts and Sciences A & S Letters magazine. Summer 2016.
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INVITED WEBSITE CONTRIBUTION (*=student mentee)

- Hanson, R.E., Puckett, R.E. Jr., McCleery, Brueseke, M.E., *Bulen, C.L., and Mertzman, S.A. 2011, Cambrian Wichita igneous province in the southern OK rift zone: posted on the IAVCEI large igneous provinces commission website (November 2011 LIP of the month; <http://www.largeigneousprovinces.org/11nov>).

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CURRICULUM VITAE

INVITED PRESENTATIONS – Academic conferences (*=student mentee)

- Brueseke, M.E., 2022, 30 Million Years of Magmatism Along a Flat-Slab Subduction-Transform Transition, Wrangell Arc, Alaska-Yukon. Alaska EarthScope and Beyond: Synthesis Meeting. 4/25/2022.
- Lacroix, B., Kempton, P., and Brueseke, M., 2021, PetCAT-Scan: a new tool for quantitative petrography in the COVID-19 pandemic and beyond: Geological Society of America Abstracts with Programs, v. 53. (Brueseke invited, Lacroix gave talk - session T67. The Lasting Effects of the 2020–2021 COVID-19 Crisis on Geoscience Education: Insights, Problems, and Unanticipated Benefits I).
- Trop, J., Brueseke, M., Benowitz, J.A., and Kirby, C.S., 2021, Evolution of magmatism along a flat-slab subduction-transform transition, Wrangell Arc, Alaska-Yukon: Geological Society of America Abstracts with Programs, v. 53.
- Invited speaker request for T13. Cenozoic volcanism in the inland Northwestern United States - GSA 2016 Rocky Mountain Section meeting, Moscow, ID, but declined due to prior commitment.
- Brueseke, M.E., Ingalls, A.I., and Hames, W.E., 2015, Miocene Rhyolite Volcanism in the Northeastern Great Basin: Spatio-Temporal-Petrogenetic Characteristics and Connection to Basin and Range Extension: Geological Society of Nevada, New Concepts and Discoveries 2015 Symposium.
- Brueseke, M.E., Saunders, J.A., Kamenov, G.D., Hames, W.E., 2012, Subduction related volatility of metal(oids), fertile lithosphere, and the implications for mid-Miocene epithermal Au-Ag deposits in the western United States: Geological Society of America Abstracts with Programs, Nov 2012.
- Saunders, J.A., Mathur, R., Kamenov, G.D., Brueseke, M., Hames, W., 2012, New Pb- and Cu-isotope data supporting a deep origin of metallic nanoparticles in bonanza epithermal ores of the northern Great Basin, Nevada-Idaho. Geological Society of America Abstracts with Programs, Nov 2012.
- *Hasten, Z.E.L. and M.E. Brueseke, 2011, Mid-Miocene volcanism in the Owyhee Mountains (ID): local physical and geochemical characteristics and implications for regional magmatism linked to the inception of the Yellowstone hotspot: Geological Society of America Abstracts with Programs, V.43, p. 651.
- Brueseke, M. E., 2011, Extensive middle-Miocene silicic magmatism in northeastern NV: the Jarbidge Rhyolite and its connection to the Cenozoic evolution of the northern Great Basin: Geological Society of America Abstracts with Programs, V.43, p. 4.
- *Hasten, Z.E.L., Brueseke, M.E., Hames, W.E., Saunders, J.A., 2011, Petrology and magmatic evolution of the Silver City district, Owyhee Mountains (ID): Geological Society of America Abstracts with Programs, V.43, p. 14.
- Saunders, J.A. and M. Brueseke, 2010, Volatility of metal(oids) and the geographic-geochemical zonation of Tertiary epithermal/epizonal ores in western USA: Geological Society of America Abstracts with Programs, V.42, p. 45.
- Brueseke, M. and W. Hart, 2010, Early Miocene volcanism along the southeastern margin of the HLP and its relationship to regional tectonomagmatic processes: High Lava Plains Workshop 2010.
- Hart, W., Brueseke, M., Wypych A., Shoemaker, K., Bondre, N., Hinterberger T., and E. Short, 2010, Progress toward a comprehensive understanding of late Cenozoic volcanism and crust-mantle evolution in and adjacent to the southeastern portion of the High Lava Plains: High Lava Plains Workshop 2010.
- Saunders, J.A. and M.E. Brueseke, 2010, Volatility of metals during subduction-related “distillation” and the geochemistry of ores. *Geochimica et Cosmochimica Acta*, Goldschmidt Conference Abstracts 2010, A913.
- Brueseke, M.E., Saunders, J., and W. Hames, 2009, Mid-Miocene magmatism and mineralization in the northern Great Basin and Oregon Plateau: the link between bonanza epithermal ore deposits and the Yellowstone hotspot, Geological Society of America Abstracts with Programs, V.41, p. 415.
- *Callicot, J. and M.E. Brueseke, 2009, Mid-Miocene Volcanism in Northeast Nevada: Spatial, Chemical, and Chronologic Significance of the Jarbidge Rhyolite, Geological Society of America Abstracts with Programs, V.41, p. 298.
- Brueseke, M.E., 2008, Understanding the evolution of magmas via multiple data types: a case study of the Santa Rosa-Calico volcanic field, NV. On the cutting edge “teaching petrology and structural geology in the 21st century” workshop, October 2008, Houston, TX.
- Brueseke, M.E., Hart, W.K., and K.A. Shoemaker, 2004, Re-evaluating the “Owyhee-Humboldt” eruptive center: Relationships between voluminous middle Miocene silicic volcanism and the Owyhee Plateau: Geological Society of America Abstracts with Programs, v. 36, p. 97.
- Hart, W.K., and M.E. Brueseke, 2004, Eruptive diversity and styles of silicic volcanism in the mid-Miocene Santa Rosa-Calico volcanic field, northern Nevada: Geological Society of America Abstracts with Programs, v. 36, p. 11.

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Brueseke, M.E. and Hart, W.K., 1999, Stratigraphy and whole-rock chemistry of mid-Miocene lava flows in the vicinity of Steens MT, Southeastern Oregon: Geological Society of America Abstracts with Programs, Rocky Mountain Section, v. 31, p. 5.

Hart, W.K., and Brueseke, M.E., Renne, P.R., and H.G. McDonald, 1999, Chronostratigraphy of the Pliocene Glenns Ferry Formation, Hagerman Fossil Beds National Monument, ID: Geological Society of America Abstracts with Programs, Rocky Mountain Section, v. 31, p. 15.

INVITED PRESENTATIONS – Academic institutions/professional non-profit organizations

Brueseke, M.E., 2023, The Snake River plain - Yellowstone volcanic province (USA): links between bonanza gold-silver mineral deposits, extensional tectonics, and the Yellowstone hotspot. The Dubois Museum (Fremont County, WY Museums), 7/6/2023.

Brueseke, M.E., 2022, Investigating the Lost Arc: Constraints on ~30 Million Years of Diachronous Magmatism along an Arc - Transform Junction, Wrangell Arc, southern Alaska: Michigan State University EES Distinguished Speaker Series, 9/30/22.

Brueseke, M.E., 2022, The story in the rocks: differences between the volcanic activity that formed the Absaroka range vs. volcanism associated with the Yellowstone hotspot. The Dubois Museum (Fremont County, WY Museums), 8/11/2022.

Brueseke, M.E., 2021, Geoscience research in Mineralogy/Igneous Petrology. Olathe Geoscience Academy (Olathe North high school, Olathe, KS), 10/6/21.

Brueseke, M.E., *Karrasch, A., *Endrich, A., 2021, Rising and falling mountains: regional and local controls on the mountains and basins of northwest Wyoming. The Dubois Museum (Fremont County, WY Museums), 7/8/2021.

Brueseke, M.E., 2021, Investigating the #lostarc: Geologic Constraints on ~30 Million Years of Diachronous Magmatism along an Arc-Transform Junction, Wrangell Arc, southern Alaska. University of Buffalo, 3/19/2021.

Brueseke, M.E., *Downey, A., *Dodd, C., Adams, D., Benowitz, J., 2020, More than just Yellowstone? Lava Mountain and other recent volcanism in the Dubois, WY area. The Dubois Museum (Fremont County, WY Museums), 8/6/2020.

Brueseke, M.E., 2020, Investigating the #lostarc: geologic constraints on ~30 Million years of diachronous magmatism along an arc-transform junction, Wrangell Arc, southern Alaska. *Scheduled for April 2, Oklahoma State University, but cancelled due to coronavirus pandemic.*

Brueseke, M.E., 2019, 16 to 14-million-year-old gold and silver deposits in the northern Great Basin (U.S.A.): epithermal bonanza ores linked to the Yellowstone hotspot. Topeka Gem and Mineral Society, 10/31/19.

*Fenner, E. and Brueseke, N., 2019, Field evidence for the paragenesis of the Miocene Milestone Hotspring Sinter. Topeka Gem and Mineral Society, 10/31/19.

Brueseke, M.E., 2019, Investigating the #lostarc: geologic constraints on ~30 Million years of diachronous magmatism along an arc-transform junction, Wrangell Arc, southern Alaska. Kansas State University, 9/17/19.

Brueseke, M.E., 2019, Investigating the #lostarc: geologic constraints on ~30 Million years of diachronous magmatism along an arc-transform junction, Wrangell Arc, southern Alaska. West Virginia University, 3/8/19.

Brueseke, M.E., 2018, Investigating the lost arc: geologic constraints on ~29 million years of continuous magmatism along an arc-transform junction, Wrangell arc, Alaska. Wichita State University, 2/16/18.

Benowitz, J., Davis, K.N., Brueseke, M.E., Trop, J., Layer, P.W., 2017, Investigating the lost volcanic arc: Wrangell-St. Elias National Park Alaska. Wrangell Mountains Center, 8/3/17.

Brueseke, M.E., 2016, Understanding links between volcanism and plate tectonics in Wrangell St. Elias, National Park, Alaska. Topeka Gem and Mineral Society, 4/22/16.

Brueseke, M.E., 2015, The Yellowstone Plateau volcanic field: what makes it super? KSU Chapter Sigma Xi, Manhattan, KS science café, 10/13/15.

Brueseke, M.E., 2013, Subduction related volatility of metal(oids) and the implications for Mid-Miocene epithermal Au-Ag deposits in the northern Great Basin (U.S.A.). Miami University, Department of Geology and Environmental Earth Science.

Brueseke, M.E., 2010, Mid-Miocene magmatism and mineralization in the Pacific Northwest (USA): bonanza epithermal ore deposits, the Yellowstone hotspot, and Laramide subduction. Kansas State University, Department of Geology.

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- Saunders, J.A., and Brueseke, M.E., 2010, The Case for the Mantle-Epithermal Connection in Western USA. Denver Region Exploration Geologists' Society.
- Brueseke, M.E., 2010, Geochronology (& inferences) of unobservable Earth processes, K-State EIDRoP GK-12 Program Summer Institute.
- Brueseke, M.E., 2010, Mid-Miocene magmatism on the Oregon Plateau: the "birth" of the Yellowstone hotspot, Auburn University, Department of Geology and Geography.
- Brueseke, M.E., 2010, The Yellowstone volcanic field: the formation and behavior of a voluminous magmatic system, Auburn University, Department of Geology and Geography.
- Brueseke, M.E., 2009, Mid-Miocene Magmatism and Mineralization in the Northern Great Basin & Oregon Plateau, Kansas Geological Society.
- Brueseke, M.E., 2009, More Than Just McDermitt: Temporal-spatial Relationships of Mid-Miocene Magmatism on the Oregon Plateau, Department of Geology, University of Kansas.
- Brueseke, M.E., 2008, Petrogenesis of a compositionally diverse volcanic field: implications for the inception of the Yellowstone hotspot, University of Nebraska-Lincoln, Department of Geosciences (I declined this presentation due to a scheduling conflict).
- Brueseke, M.E., 2008, Mid-Miocene Magmatic System Development in the Northwestern United States, Southern Methodist University, Department of Earth Sciences.
- Brueseke, M.E., 2007, Mid-Miocene Magmatic System Development in the Northwestern United States, Fort Hays State University Department of Geosciences.
- Brueseke, M.E., 2006, Mid- Mid-Miocene Magmatic System Development in the Northwestern United States, Illinois State University, Department of Geology-Geography.
- Brueseke, M.E., 2005, North America's sleeping giant: The past, present, and future of Yellowstone Volcano, Eastern Illinois University (Earth Science week keynote speaker).

CONTRIBUTED PRESENTATIONS – Academic conferences (*=student mentee)

- *Mazella, C., Brueseke, M.E., Adams, D.C., and *Broley, K., 2023, Cenozoic basaltic volcanism in Jackson Hole, Wyoming (U.S.A.) coeval with deposition of the Teewinot Formation: physical volcanology of the Flat Creek Basalt: Geological Society of America Abstracts with Programs, v. 55.
- *Mindrup, Q, Brueseke, M.E., and Shaulis, B., 2023, Lithium concentrations in Cenozoic rhyolite vitrophyres and quartz-hosted melt inclusions: implications for Lithium deposits in the northern Great Basin (U.S.A): Geological Society of America Abstracts with Programs, v. 55.
- *Broley, K., Brueseke, M.E., and Miggins, D.P., 2023, Oligocene mafic magmatism in the Gravelly Range, southwestern Montana (U.S.A.): new constraints on the Dillon volcanics: Geological Society of America Abstracts with Programs, v. 55.
- *Lupini, I., *Bearden, A., *Broley, K., *Van Wagenen, A., Kempton, P.D., Brueseke, M., 2023, Element partitioning between altered basaltic glass and secondary phillipsite: preliminary results from site U1557, south Atlantic Transect, Expeditions 390/393: Geological Society of America Abstracts with Programs, v. 55.
- Gedara, M., Goldberg, K., Brueseke, M.E., Kempton, P., Marshall, C.P., 2023, Origin and timing of chert nodules in the Permian Florence limestone in Kansas: Geological Society of America Abstracts with Programs, v. 55.
- Brueseke, M.E., *Manselle, P., Trop, J.M., and Benowitz, J.A., 2023, Magmatism associated with an east-dipping subduction zone under Wrangellia in the Early Cretaceous: geochemical constraints from the Chisana Formation of eastern Alaska: Geological Society of America Penrose Conference: Developing a New Paradigm for the Mid-Cretaceous to Eocene North American Cordillera: An Obliquely Convergent Plate Margin.
- Adam, C., Smith, M.N., Kempton, P.D. and Brueseke, M., 2023, Temporal evolution of the swell and magmatic fluxes along the Louisville hotspot chain. *Goldschmidt Conference*, 9-14 July, Lyon, France
- Brueseke, M., *Karrasch, A., *Endrich, A., Adams, D.C., Miggins, D.P., and Benowitz, J., 2023, Yellowstone hotspot - lithosphere interactions (U.S.A.): <10 Ma off-axis magmatism in northwest Wyoming distinct from the Yellowstone hotspot track: International Association of Volcanology and Chemistry of the Earth's Interior, Scientific Assembly 2023, Rotorua New Zealand.
- *Bearden, A.T., Brueseke, M., Benowitz, J., Miggins, D.P., Mann, M.E., 2022, New Insights on the Yakutat slab tear, south central Alaska (USA): Sr-Nd-Pb isotope constraints on the Pleistocene Maclaren River Volcanic Field: American Geophysical Union Fall Meeting.

MATTHEW E. BRUESEKE

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- Brigham, K.B., Brueseke, M.E., and Turner, S., 2022, Geochemistry of Wrangell Arc Lavas Indicate a Mantle Origin for Voluminous High-Mg# Andesites, With Implications for the Growth of Continental Crust: American Geophysical Union Fall Meeting.
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- *Knight, J. and M. Brueseke, 2004, Geochemical and petrographic characterization of ash flow volcanism: The Cold Springs tuff and its significance to the evolution of the Santa Rosa-Calico volcanic field, Nevada: Miami University Undergraduate Research Forum.
- Brueseke, M.E., and W.K. Hart, 2003, Compositional diversity in mid-Miocene mafic lavas from the southeastern Oregon Plateau: Geological Society of America Abstracts with Programs: Geological Society of America Abstracts with Programs, v. 35, p 549.
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- *Maloy, A.K., Brueseke, M.E., Minturn, C.B., and W.K. Hart, 2003, The generation of intermediate composition magmas in a bimodal setting: evidence from the Santa Rosa-Calico volcanic field, Nevada: Geological Society of America Abstracts with Programs, v. 35, p. 5.
- *Maloy, A.K., Brueseke, M.E., Minturn, C.B., and W.K. Hart, 2003, The generation of intermediate composition magmas in a bimodal setting: evidence from the Santa Rosa-Calico volcanic field, Nevada: Miami University Undergraduate Research Forum.
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- Brueseke, M.E., Shoemaker, K.A., and W.K. Hart, 2002, New tectonic implications derived from southern Oregon Plateau basaltic volcanism: defining the Owyhee Block; Geological Society of America Abstracts with Programs, v. 34, p. 38.
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- Brueseke, M.E., and W.K. Hart, 2000, Re-evaluation and new age constraints on the eruptive history of the mid-Miocene Steens Basalt, southeastern Oregon; Geological Society of America Abstracts with Programs, v. 32, p. 147.
- Brueseke, M. and K. Cooper, 1997, Benthic community classification of the Arnheim Formation based on limestone petrography. Ninth Annual Undergraduate Research Conference, Butler University, Program and Abstracts, p. 15.

RESEARCH/INTERVIEWS/VIDEOS IN POPULAR PRESS (e.g., television interviews, newspaper/magazine articles, social media, etc.)

- Story in the Rocks. 2022, Shawn O'Brate, The Ranger (Fremont County, WY newspaper), <https://rivertonranger.com/2022/08/13/08-13-2022-2/>
- A tectonic plate is dying under Oregon. Here's why that matters. 2019, Wei-Haas, Maya, National Geographic, <https://www.nationalgeographic.com/science/2019/07/tectonic-plate-dying-oregon-why-matters/>
- Bucknell professor, students expand long-term record of active Alaskan volcanic belt. The Daily Item (online and in print), 2018, Scicchitano, Eric. 12/25/18.
- Geologists' study unearths new information on age, activity of Alaska's Wrangell volcanic belt, 2018, Bohn, Beth. National Science Foundation Science360 News, Picture of the Day, December, 21, 2018, <https://news.science360.gov/obj/pic-day/5ad64732-b1db-4a99-bc07-dc67198b890d/geologists-study-unearths-new-information-age-activity-alaskas-wrangell-volcanic>
- @NSF. (2018, December 21). A team of #NSF-funded geologists has 'unearthed' new data on Alaska's Wrangell volcanic belt where the Pacific and North American Plates collide. Learn how they did it in remote parts of Alaska and the Yukon: <http://bit.ly/2PTXf1c> [Twitter post]. Retrieved from <https://twitter.com/NSF/status/1076158432628146176>
- Kansas State University[@kansassateuniversity], 12/19/18. [Photograph of Matt Brueseke, by Jeff Trop]. Retrieved from https://www.instagram.com/p/BrlDh_OF9qH/
- Geologists' study unearths new information on age, activity of Alaska's Wrangell volcanic belt, 2018, Bohn, Beth. K-State Today, 12/19/18, <https://www.k-state.edu/media/newsreleases/2018-12/wrangell121918.html>
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- Why Alaskan summers rock, 2016, Brueseke, M.E. College of Arts and Sciences A & S Letters magazine. Summer 2016.
- Researchers of the Lost Arc, 2016, Szentkeresztiova, K., and Williams, A. May, 17, 2016. https://www.youtube.com/watch?v=cJztNfBTkp0&feature=em-subsub_digest
- Rock Stars, 2016, Hancock, Sarah Caldwell. Seek: Vol. 6: Iss. 1. Seek is the bi-yearly KSU research magazine.
- Geoscience jobs down in Kansas, prospects higher in other states. The Collegian (KSU student newspaper). Interview of M. Brueseke, published 12/1/2015.
- Field Notes: The mysterious Wrangells offer a clue into Earth's past. Fairbanks NewsMiner (online and in print) article written by Paul Layer discussing our group's work in the Wrangell Mountains (AK), 7/14/2015.

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This was also disseminated via the UAF-Fairbanks website and in many other newspapers across Alaska, as well as via social media (e.g., NPS Wrangell St. Elias NP Facebook page, Twitter, etc.).

Diamonds in Kansas? Maybe. KSN.TV (ksn.com- Wichita, KS television station). Interview of M. Brueseke discussing Riley County, KS kimberlites published 5/13/2013.

PROFESSIONAL ACTIVITIES

Member

Geological Society of America (1994 - present); American Geophysical Union (1998 - present); Sigma Xi (1999 - present); The Geochemical Society (2005 - present); National Association of Geoscience Teachers (2005 - present); International Association of Volcanology and Chemistry of the Earth's Interior (2006 - present); IAVCEI Commission on Collapse Calderas (2007-present); Society of Economic Geologists (2008 - present); Mineralogical Society of America (2009 - present); The International Association for Geoscience Diversity (2019 - present).

Referee for the Following Funding Agencies/Journals/Publishing Companies/Other

The National Science Foundation (Petrology/Geochemistry, Tectonics, MRI, CAREER, GRFPF), Deutsche Forschungsgemeinschaft (German Research Foundation), U.S. Department of Agriculture – Small Business Innovation Research Program (Mineral exploration technique proposal), National Park Service (Yellowstone N.P. research permitting multiple times), Nature Geoscience, Geology, GSA Bulletin, G-Cubed, Lithos, Earth Science Reviews, Economic Geology, Earth and Planetary Science Letters, Geosphere, Geological Magazine, Bulletin of Volcanology, Journal of Geoscience Education, Journal of Volcanology and Geothermal Research, International Geology Review, Geological Society of America Special Paper, Geological Society of America Field Guides, Applied, Geochemistry, Marine and Petroleum Geology, Geochemistry, Prentice Hall, Central European Journal of Geosciences, Brooks-Cole Publishing, Cambridge Press, Pearson Publishing Co.

Symposia/Field Trip Leadership

- 2023: Session Co-Convener, T69. Disabled and Neurodivergent Perception, Community, and Identity in the Geosciences (GSA Connects 2023 Annual Meeting)
- 2023: Field trip leader, “Spring Mountain Geology Adventure Trek”, 7/7/2023, Trip run through The Dubois Museum (WY) and focused on public geological outreach
<https://windriver.org/event/spring-mountain-geology-trek/>
- 2023: Session Co-Convener, Drivers of Continental Magmatism (2023 GSA Rocky Mountain Section meeting, Fort Collins, CO).
- 2022: Session Co-Convener, T33A The Alaskan and Northern Canadian Cordillera: Geology, Geochemistry, Geophysics, Petrology, and Tectonics (2022 AGU Fall meeting, Chicago, IL).
- 2021: Session Co-Convener, From the Afar Rift to Alaskan Arcs (and the Oregon Plateau in between): Honoring the Career and Contributions of William K. Hart T21 (2021 GSA Annual Meeting, Portland, OR).
- 2021: Field trip leader, “Torrey Canyon Geology Adventure Trek”, 7/9/2021, Trip run through The Dubois Museum (WY) and focused on public geological outreach
<https://fremontcountymuseums.com/event/torrey-canyon-geology-adventure-trek>.
- 2020-21: Session Co-Convener, Ultramafic and mafic magmatism T16 (2020 GSA combined South-Central and North-Central sections meeting, virtual).
- 2020-21: Session Co-Convener, Granites and Rhyolites as a Record of Crustal Magmatic Processes T15 (2020 GSA combined South-Central and North-Central sections meeting, virtual).
- 2020: Field trip leader, “Volcanic Geology of the Dubois Area Trek”, 8/7/2021, Trip run through The Dubois Museum (WY) and focused on public geological outreach
<https://duboiswyoming.org/event/dubois-museum-volcanic-geology-of-the-dubois-area-trek/>
- 2018-19: Session Co-Convener, Mafic and ultramafic magmatism in the mid-continent and beyond T9 (2019 GSA combined South-Central, North-Central, Rocky Mountain sections supermeeting, Manhattan, KS).
- 2018-19: Session Co-Convener, Rhyolite/granite magmatism T10 (2019 GSA combined South-Central, North-Central, Rocky Mountain sections supermeeting, Manhattan, KS).

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- 2018-19: Co-field trip leader for Windows into the Cretaceous Mantle of the North American Mid-Continent—Kimberlites of Riley County. (2019 GSA combined South-Central, North-Central, Rocky Mountain sections supermeeting, Manhattan, KS).
- 2016: Session Co-Convener, Recent advances in understanding magmatism along and within the northern North American Cordillera T154 (2016 GSA Annual Meeting, Denver, CO).
- 2016: Co-field trip leader for Mineral deposits and geology of the Silver City mining district and Owyhee Mountains, southwestern Idaho (2016 GSA Annual Meeting; trip was cancelled).
- 2015: Session Co-Convener, Recent advances in the geological evolution of the southern Oklahoma Aulacogen T5 (2015 GSA South-central Meeting, Stillwater, OK).
- 2014: Co-Convener, Igneous rocks of the southern Oklahoma Aulacogen, Oklahoma Geological Survey Field Forum (March 8-9, 2014).
- 2013: Session Co-Convener, Recent advances and applications of isotope geochemistry and geochronology to ore deposit studies T98 (2013 GSA Annual Meeting, Denver, CO).
- 2012: Session Co-Convener, Subduction-related mantle preparation and subsequent magmatism and ore genesis T38 (2012 GSA Annual Meeting, Charlotte, NC).
- 2011: Session Co-Convener, Recent advances in studies of large-volume silicic volcanism: stratigraphy, architecture, evolution, T25 (2011 GSA Annual Meeting, Minneapolis, MN).
- 2011: Co-field trip leader for Timing, distribution, amount, style, and causes of Cenozoic extension, northern Great Basin (2011 GSA Rocky Mountain/Cordilleran section meeting, May 20-23).

Other Service/Development/Positions

- 2023 - present: Member, Editorial Board, *Advances in Geochemistry and Cosmochemistry*
- 2023 - present: SZ4D Collective Impact Committee
- 2023 - present: Geological Society of America Annual Program Committee
- 2019: Skype-a-scientist presenter (K-12 classes)
- 2018-2022: Review Editor, *Frontiers in Earth Science – Petrology*
- 2018-2019: Guest Editor (with Jim Saunders), *Minerals* Special Issue "Application of New Geochemical Analytical Techniques to the Understanding of the Genesis of Epithermal Au-Ag Deposits"
- 2018-2019: Organizing Committee Member and Exhibits Chair, *combined GSA South-Central, North-Central, and Rocky Mountain sections super meeting (March 2019, Manhattan, KS)*
- 2016- 2018: Member, GSA-MGVP (Geological Society of America - Mineralogy, Geochemistry, Volcanology, Petrology division) early career award committee
- 2015 - 2019: Member, GSA Annual Meeting Joint Technical Program Committee
- 2015 - 2019: Geochemical Society liaison to the Geological Society of America
- 2015 - 2019: Member, Geochemical Society program committee
- 2015 - 2019: Member, Kansas Geological Survey geologic mapping advisory committee
- 2012 - 2018: Guest editor (with Graham Andrews and Ben Ellis), *Geosphere* Themed Issue: Cenozoic Tectonics, Magmatism and Volcanic Stratigraphy of the Snake River Plain–Yellowstone Region (SRP–Y) and Adjacent Areas
- 2012 - 2016: At large Executive Committee member and Secretary, Sigma Xi KSU Chapter
- 2011: Session Judge for student posters, Joint GSA Rocky Mountain/Cordilleran section meeting (May)
- 2011: Participant, NSF sponsored "Science: Becoming the Messenger" workshop (January)

ACADEMIC SERVICE

- 2021: External promotion reviewer, Texas Tech U. (KSU)
- 2019: External tenure reviewer, West Virginia U. Dept. of Geology and Geography (KSU)
- 2018: External tenure reviewer, U. Arkansas Dept. of Geosciences (KSU)
- 2018-2020: Chair, Student Affairs subcommittee; Graduate council (KSU)
- 2018-present: Member, Undergraduate curriculum committee – Dept. of Geology (KSU)
- 2018-present: Member, KBOR Graduate program review committee – Dept. of Geology (KSU)
- 2018-present: Chair, Graduate program strategy committee – Dept. of Geology (KSU)
- 2017-present: Chair, Field Camp committee (KSU)
- 2016-2022: Elected Member, Graduate Council (KSU); re-elected in 2019 for a second three-year term.
- 2015 - 2016: Member, Instructor search committee (KSU)
- 2015 - 2016: Member, Solid earth geophysics/Basin fluid modeling search committee (KSU)
- 2014 - 2015: Member, Carbonate Sedimentology search committee (KSU)

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2014 - 2018: Member, Geology Curriculum committee (KSU)
2014 - 2015: Chair, Structural Geology search committee (KSU)
2012- 2013: Member, Geology Department Head search committee (KSU)
2011 - 2013: Department of Geology webmaster (KSU)
2011 - 2014: Geology representative to K-State EIDRoP GK-12 program (KSU)
2010 - 2012: Member, Environmental Geobiology faculty search committee (KSU)
2010 - 2015: Member, University Library Committee (KSU)
2009 - 2016: Organized departmental activities for University-wide open house (KSU)
2009 - 2016: Organized departmental activities for majors fair (KSU)
2009 - 2011: GPS program faculty mentor (KSU)
2008 - 2017: Faculty Advisor, Williston Geology Club (KSU)
2008 - 2015: Chair, Departmental Recruitment Committee (KSU)
2007 - present: Geological Society of America campus representative (KSU)
2007 - present: Faculty Academic Advisor (KSU)
2007 - present: Mineral/rock identification for general public (KSU)
2007 - present: Dept. Rep. at Geol. Society of America graduate student recruitment booth (KSU)
2007 - present: Dept. representative at academic majors fair (KSU)
2007 - 2008: Dept. representative at University-wide open house (KSU)
2007 - 2008: Faculty Mentor, Campus Internship Program (KSU)
2007 - 2008: Coordinator, Structural Geology/Tectonics faculty search (KSU)
2007 - 2008: Coordinator, K-State Geology Department seminar series (KSU)
2005-06: Guest lecturer, Department of Geology and Geography (EIU)
2005: Member, Peer institutions and competitors committee (EIU)
2004 - 2005: Department representative at accepted student open houses (Miami University; MU)
1997 - 2005: Host, for prospective graduate students (MU)
1997 - 2005: Substitute lecturer for Dr. William K. Hart (MU)
1997 - 2005: Guide, local geological field trips for public outreach (MU)
2004: Graduate student member, Geophysics Assistant Professor search committee (MU)
2004: Judge, Miami University Science Fair (MU)
1998 - 2003: Dept. Representative at Geol. Society of America graduate student recruitment booth (MU)
2001: Judge, Miami University Science Fair (MU)
2000 - 2001: Graduate student representative to the faculty (MU)
1997 - 1998: Graduate student representative to the faculty (MU)
1996 - 1997: President, Miami University Geological Society (MU)
1995 - 1996: Treasurer, Miami University Geological Society (MU)

OTHER SKILLS

National Outdoors Leadership School wilderness first aid certification (2019-2021). Proficiency/experience with MS-Office Suite, CorelDraw/Photo-Paint/Adobe Illustrator & related graphics software, ESRI ArcGIS, course maintenance software for on-campus and online teaching efforts, image reduction and interpretation for remote sensing software and aerial imagery, worldwide web page creation and maintenance, and college Spanish coursework equivalent to two years of study. I also received the ESRI ArcGIS I Certification. In addition to the analytical skills and instrumentation used during my research and time spent as a Research Associate (e.g., TIMS, ICP-MS/DCP-AES, etc.), I have experience with powder X-ray diffraction (KSU), hand-held XRF (KSU), Raman spectroscopy (KSU), fluid-inclusion work (KSU), reflected light microscopy (KSU), electron microprobe analyses and imaging (KSU and earlier), LA-ICP-MS analyses (KSU), thin section making, 3-D photography and digital model making, and drone flying.

APPLICABLE EMPLOYMENT

1995 - 1996: Geotechnical Lab Technician: Shilts, Graves, and Associates, South Bend, IN. Hired for field soil sampling of Quaternary glacial sediment & other geologic material by split spoon-hollow stem drilling

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and hand auguring methods. I also characterized and tested sediment, concrete, asphalt, and other materials for regional engineering and environmental work, by both laboratory and field-based methods.