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EDUCATION

2011	Florida International University, Geosciences	PhD
2001	Babes-Bolyai University, Geology	MS
1999	Babes-Bolyai University, Geology-Geography	BS

ACADEMIC APPOINTMENTS

2019-	Associate Professor	University of Arkansas
2013 – 2019	Assistant Professor	University of Arkansas
2011 – 2013	Visiting Postdoctoral Associate	Florida International University

PEER-REVIEWED PUBLICATIONS (*indicates student advisee co-author)

- Bouabdellah M., Levresse G., Boukirou W., **Potra A.**, Samuelsen J.R., Caracausi A., Italiano L., Klügel A., Yans J., Castorina F. 2024, Basin inversion, drifting and hyper-extension in the Central Atlantic Ocean and Maghrebian Tethys as fluid driving mechanisms for the superimposed base metal mineralization events in the Jbel Bou Dahar carbonate-hosted Pb-Zn-Ba deposits (High Atlas, Morocco). *Chemical Geology*.
<https://doi.org/10.1016/j.chemgeo.2024.122451>
- *Morris N., **Potra A.**, Samuelsen J. 2024, Tracing the Origin of Metal Ions in Mississippi Valley-type Ore Deposits: Constraints from Lead Isotope Studies of Black Shales from the Midcontinent United States. *Economic Geology*.
[DOI:10.5382/econgeo.5097](https://doi.org/10.5382/econgeo.5097)
- *Morris N., **Potra A.**, Samuelsen J. 2024, Paleoenvironmental constraints on Paleozoic shale deposition in the midcontinent United States. *American Association of Petroleum Geologists Bulletin*, v. 108. [DOI: 10.1306/03212422156](https://doi.org/10.1306/03212422156)
- *Morris N., **Potra A.**, Samuelsen J. 2024, Constraining the provenance of black shales using rare earth elements and neodymium isotopes, Midcontinent United States. *Geological Society of America Bulletin*, v. 136. [DOI: 10.1130/B37264.1](https://doi.org/10.1130/B37264.1)
- Samuelsen J.R., and **Potra A.** 2023, Multiregional Pb Isotopic Linear Patterns and Diagenesis: Isotopes from Ancient Animal Enamel Shows Native American “Foreign War Trophies” are Local Ancestors. *Journal of Archaeological Science*, v. 156, p. 1-21. [DOI: 10.1016/j.jas.2023.105804](https://doi.org/10.1016/j.jas.2023.105804)
- Bouabdellah M., Levresse G., Arbaoui A.E., Wafik A., **Potra A.** 2021, Comment on “Evaporitic brines and copper-sulphide ore genesis at Jbel Haimer (Central Jebilet, Morocco)” – A discussion by Essarraj et al. (*Ore Geology Reviews* 129 (2021) 103920). *Ore Geology Reviews*, <https://doi.org/10.1016/j.oregeorev.2021.104188>
- Bouabdellah M., Boukirou W., **Potra A.**, Melchiorre E., Bouzahzah H., Yans Y., Zaid K., Idbaroud M., Poot J., Dekoninck A., Levresse G. 2021, Origin of Moroccan Touissit-Bou Beker and Jbel Bou Dahar supergene non-sulfide biomineralization and its relevance to microbiological activity, Late Miocene uplift and climate changes. *Minerals*, 11(4), 401. [DOI: 10.3390/min11040401](https://doi.org/10.3390/min11040401)
- Chick J., *McKim S.E, **Potra A.**, Manger W., Samuelsen J.R., 2021, Radiogenic Pb enrichment of Mississippi Valley-type metallic ore deposits, southern Ozarks: constraints based on geochemical studies of source rocks and their diagenetic history. *Geosciences*, 11(4), 172. [DOI:10.3390/geosciences11040172](https://doi.org/10.3390/geosciences11040172)
- Samuelsen J.R., and **Potra A.**, 2020, Biologically Available Pb: A Method for Ancient Human Sourcing Using Pb Isotopes from Prehistoric Animal Tooth Enamel. *Journal of Archaeological Science*, v. 115, p. 1-23. [DOI: 10.1016/j.jas.2020.105079](https://doi.org/10.1016/j.jas.2020.105079)

- *Simbo C.W., **Potra A.**, Samuelsen J.R., 2019, A geochemical evaluation of the genetic relationship between Ouachita Mountains Paleozoic rocks and the Mississippi Valley-type mineralization in the southern Ozark Region, USA. *Ore Geology Reviews*, v. 112, p. 1-18. DOI:10.1016/j.oregeorev.2019.103029
- *Bottoms B., **Potra A.**, Samuelsen J.R., Schutter S.R., 2019, Geochemical Investigations of the Woodford-Chattanooga and Fayetteville Shales: Implications for Genesis of the Mississippi Valley-type Zn-Pb ores in the Southern Ozark Region and Hydrocarbon Exploration. *American Association of Petroleum Geologists Bulletin*, vol. 103, no. 7, p. 1745-1768. DOI:10.306/12171818101
- Potra A.**, *Garmon, W., Samuelsen J.R., Wulff A., Pollock E., 2018, Lead Isotope Trends and Metal Sources in the Mississippi Valley-type Districts from the Mid-continent United States. *Journal of Geochemical Exploration*, vol. 192, p. 174-186. DOI: 10.1016/j.gexplo.2018.07.002
- Potra A.**, Ruhl L.S., Samuelsen J.R., 2018, Legacy lead from past mining activity and gasoline additives: evidence from lead isotopes and trace element geochemical studies in the White River Basin, southern Ozark Region, USA. *Geosciences*, vol. 8, issue 6, p. 1-17. DOI:10.3390/geosciences8060189
- Potra A.**, *Dodd J., Ruhl L., 2017, Distribution of trace elements and Pb isotopes in stream sediments of the Tri-State mining district (Oklahoma, Kansas, and Missouri), USA. *Applied Geochemistry*, vol. 82, p. 25-37. DOI: 10.1016/j.apgeochem.2017.05.005
- Potra A.**, and *Moyers A., 2017, Constraints on the sources of ore metals in Mississippi Valley-type deposits in central and east Tennessee, USA, using Pb isotopes. *Ore Geology Reviews*, vol. 81, p. 201-210. DOI: 10.1016/j.oregeorev.2016.09.034
- Tennyson R., Brahana V., Polyak V., **Potra A.**, Covington M., Asmerom Y., Terry J., Pollock E., Decker D., 2017, Hypogene speleogenesis in the Southern Ozark Uplands, mid-continent United States. In Klimchouk A., Palmer A., De Waele J., Auler A., Audra P. (Eds.), *Hypogene Karst Regions and Caves of the World*: Springer International Publishing, Cham, Switzerland, p. 663-676. DOI:https://doi.org/10.1007/978-3-319-53348-3_43
- Chick J., Cains J., McFarlin F., *McKim S., **Potra A.**, 2017, Hydrothermally emplaced, Lower Mississippian, tripolitic chert and its possible relationship to the Tri-State lead-zinc mining district. *Journal of the Arkansas Academy of Science*, vol. 71, article 29, p. 169-172.
- *McKim S., Cains J., Chick J., McFarlin F., **Potra A.**, 2017, Lithologic Stratigraphic Position, Sequence and Diagenetic History, Lower Mississippian Tripolitic Chert, Northern Arkansas and Southern Missouri. *Journal of the Arkansas Academy of Science*, vol. 71, article 28, p. 165-168.
- Cains J.M., **Potra A.**, Pollock E.D., 2016, Lower Mississippian Chert Development, Southern Midcontinent Region. *Journal of the Arkansas Academy of Science*, vol. 70, article 12, p. 59-63.
- Philbrick J., Pollock E., **Potra A.**, 2016, Comparison of the Elemental Geochemistry of the Arkansas Novaculite and the Boone Chert in their Type Regions, Arkansas. *Journal of the Arkansas Academy of Science*, vol. 70, article 31, p. 184-189.
- Potra A.**, Hickey-Vargas R., Macfarlane W.A., Salters V.J.M., 2014, Pb, Sr, and Nd isotopic characteristics of a variety of lithologies from the Guerrero Composite Terrane, West-Central Mexico: constraints on their origin. *Revista Mexicana de Ciencias Geologicas*, vol. 31, no. 2, p. 203-220. [http://satori.geociencias.unam.mx/31-2/\(05\)31-2-Potra.pdf](http://satori.geociencias.unam.mx/31-2/(05)31-2-Potra.pdf).
- Potra A.**, and Macfarlane W.A., 2014, Lead Isotope Studies of the Guerrero Composite Terrane, West-Central Mexico: Implications for Ore Genesis. *Mineralium Deposita*, v. 49, p. 101-117. DOI:10.1007/s00126-013-0477-0.

FUNDED PROJECTS

- 2024 – 2027** National Science Foundation; \$1,099,952 (PI)
MRI Track 1: Acquisition of a replacement multicollector ICP-MS for enhanced research in geology, archaeology, and paleobiology (Co-PIs: John Samuelsen, Gregory Dumond, Glenn R. Sharman, Celina A. Suarez). Award #: 2408748

- 2021 – 2024** National Science Foundation; \$387,283 (Co-PI)
REU Site: Assessment and sustainable management of ecosystem services at the nexus of food, energy, and water systems (PI: Michelle Evans-White)
- 2020 – 2024** National Science Foundation; \$397,057 (Sole PI)
Constraints on genetic relationships between organic-rich black shales and Zn-Pb mineralization in the Mid-Continent Region, U.S.A. Award #: 1952088
- 2016 – 2020** National Science Foundation; \$542,294 (Co-PI)
Early Career: Acquisition of a laser ablation system to enable new constraints on continental crust, dinosaurs, and ore deposits (PI: Gregory Dumond; Co-PI: Celina A. Suarez). Award #: 1561166
- 2016 – 2017** Arkansas Space Grant Consortium; \$10,000 (PI)
Siderophile element and Os isotope ICP-MS and MC-ICP-MS characterization of extra-terrestrial components in target rocks from Missouri's Weaubleau and Decaturville meteorite impact structures
- 2014 – 2015** Arkansas Science and Technology Authority; \$46,058 (PI)
Environmental effects of mining the Mississippi Valley-type deposits in the Northern Arkansas and the Tri-State districts as Inferred from isotope data (Co-PI: Laura S. Ruhl)

AWARDS AND FELLOWSHIPS

- 2023** Faculty of the Year, Sigma Gamma Epsilon Earth Science Student Honor Society, Department of Geosciences, University of Arkansas
- 2019** Faculty of the Year, Sigma Gamma Epsilon Student Honor Society, Department of Geosciences, University of Arkansas
- 2017** Faculty of the Year, Sigma Gamma Epsilon Student Honor Society, Department of Geosciences, University of Arkansas
- 2016** Award for Outstanding Mentor, Office of Nationally Competitive Awards, University of Arkansas
- 2011** Award for Outstanding Academic Achievement in the Ph.D. in Geosciences. College of Arts and Sciences, Florida International University
- 2010** Dissertation Year Fellowship. Research and University Graduate School, Florida International University; \$25,000
- 2008** Doctoral Evidence Acquisition Fellowship. Research and University Graduate School, Florida International University; \$8,300

INVITED SPEAKER

- 2019** University of Arkansas Little Rock, Department of Earth Sciences, *EARTHtalk* Series
- 2018** University of Arkansas Fayetteville, Department of Geosciences
- 2018** University of Mississippi, Department of Geology and Geological Engineering
- 2016** Missouri State University, Department of Geography, Geology and Planning
- 2016** University of Texas San Antonio, Department of Geological Sciences
- 2014** University of Missouri, Department of Geological Sciences
- 2013** University of Arkansas Fayetteville, Department of Geosciences

TEACHING

Courses Taught at University of Arkansas

2024	Igneous and Metamorphic Petrology (GEOS 4333/5333)
2023	Physical Geology (GEOS 1113)
2021-	Oceanography (GEOS 3333)
2016-2022	Geology Field Camp (GEOS 4686)
2015-2022	Geology Field Trip (GEOS 437V/537V)
2015-	Principles of Geochemistry (GEOS 4063/5273)
2014-	Economic Geology (GEOS 4083/5283)
2013-	Mineralogy (GEOS 2313)

Courses Taught at Florida International University

2012	Earth Materials laboratory (GLY 3202L)
2011	Introduction to Earth Sciences (GLY 1010)
2010	Earth Resources laboratory (GEO 3510L)
2005-2009	Introduction to Earth Sciences laboratory (GLY 1010L)

ADVISING

Advisor - Graduate

Mackenzie Moorhead, MS student (August 2022 – May 2024)

- Thesis: Radiogenic Isotope and Trace Element Concentration Analyses of Midcontinent Basement Rocks as a Potential Source of Base Metals (Pb, Zn) for Mississippi Valley-type Ores
- Employment: WSP, Kansas City, MO

Hashindra Herath, PhD candidate (August 2021 – Present)

- Candidacy exam: July 2023
- Dissertation: Sources and Ore-forming Mechanisms of Mississippi Valley-type Pb-Zn Deposits in the Midcontinent United States

Noah Morris, PhD candidate (June 2020 – December 2023)

- Candidacy exam: August 2020
- Dissertation: Geochemistry of Metal-rich Pennsylvanian Black Shales and their Genetic Relationship to Mississippi Valley-type Pb-Zn Ore Deposits, Midcontinent United States

Kate Gilliam, PhD candidate (August 2019 – Present)

- Candidacy exam: November 2013
- Dissertation: Groundwater Geochemistry and Flow Paths, Rush Mining District, Arkansas: Potential Mobilization and Adsorption of Heavy Metals

Ruby Patterson, MS student (August 2018 – July 2020)

- Thesis: Effects of Terrestrial Weathering on Rare Earth Element Concentrations and Sulfur Isotopic Signatures of Carbonaceous and Ordinary Chondrites
- Awarded the “2020 Workforce Development” Grant through the Arkansas Space Grant Consortium
- Lunar and Planetary Institute Internship (Summer 2020) (2% acceptance rate)
- Fall 2020: PhD student at University of Houston
 - Expected graduation: August 2024

Baylor David, MS student (January 2018 – Present)

- Thesis: A comprehensive geochemical characterization of the Arkansas Alkaline Province igneous rocks

Wakamya Christophe, MS student (August 2017 – May 2019)

- Thesis: The Paleozoic rocks of the Ouachita Mountains and their genetic relationship to the Mississippi Valley-type mineralization in the southern Ozark region: insights from Pb isotope and trace element geochemistry
- Fulbright Foreign Student Program
- Awarded the “Society of Economic Geologists Foundation Travel Grant” (Gold Deposits in the Biriam of Ghana, West Africa; April 22 – May 1, 2018)
- Awarded the “Tulsa Geological Society Foundation” Outstanding Student Award (Spring 2018)
- Fall 2019: PhD student at Colorado State University
 - Graduated: December 2023
- Employment: Ormat Technologies, Inc.

Bottoms Bryan, MS student (January 2016 – December 2017)

- Thesis: A Geochemical Investigation and Comparison between Organic-rich Black Shales and Mississippi Valley-type Pb-Zn ores in the Southern Ozarks Region
- Employment: Detring Energy Advisors, Houston, TX

Garmon Travis, MS student (August 2014 – May 2016)

- Thesis: Sourcing Diagenetic and Mineralizing Fluids of MVT Ores along the Cincinnati Arch
- Won 1st place at the “Arkansas Academy of Science 100th Meeting” Oral Presentation

Dodd Jason, MS student (January 2014 – Present)

- Thesis: Geochemical and Lead Isotope Studies of Stream Channel Sediments from Picher, OK: Effects of Mining the MVT Deposits in the Tri-State Mining District

Moyers Austin, MS student (August 2013 – May 2015)

- Thesis: Source Constraints of Ore Metals in MVT Deposits in Central and East Tennessee using Lead Isotopes

Co-Advisor - Graduate

Alexander Goodsum, MS student (Summer 2021 – Spring 2022)

- Thesis: A Geochemical and Mineralogical Evaluation of the Mona Lisa Turquoise Mine, Polk County, Arkansas
- Current: Gemological Institute of America. Research Associate in the Colored Stones Group.

Cains Julie, MS student (Fall 2016 – Spring 2019)

- Thesis: Geochemical Analysis of Mississippian Cherts and Devonian-Mississippian Novaculites, Southern Mid-continent Region
- Fall 2019: PhD student at Oklahoma State University

Chick Jonathan, MS student (Fall 2018 – Spring 2020)

- Thesis: Comparative Geochemical Analysis of Ordovician and Mississippian Cherts in Relation to the Northern Arkansas and the Tri-State Mississippi Valley-type Ore Districts

Samuelson John, PhD Student, Department of Anthropology (Fall 2017 – Spring 2020)

- Dissertation: An Isotopic Assessment of Late Prehistoric Interregional Warfare in the Southcentral United States

Advisor - Undergraduate Honors

Copeland Jackson (Spring 2021 – Spring 2023), UA Fayetteville

- Thesis: Geochemical Analysis and Numerical Modeling of Central and East Tennessee Mississippi Valley-type Ore Districts: Constraints on Ore Genesis
- Graduated Summa Cum Laude (College Honors)
- Fall 2024: PhD student at Australian National University (Research School of Earth Sciences)

McKim Sydney (Spring 2017 – Fall 2018), UA Fayetteville

- Thesis: The Origin of Tripolitic Chert and its Isotopic and Elemental Relationship to the Lead-Zinc Deposits in the Southern Ozark Region
- Awarded Honors College Research Grant (Spring 2018 and Fall 2018)
- Graduated Magna Cum Laude (College Honors)
- Fall 2020: MS student at University of Wyoming

Williams Lauren (Fall 2015), UA Fayetteville

- Awarded Honors College Research Grant (Spring 2016 and Fall 2016)

Advisor - Undergraduate

Webster Kamryn (Fall 2024), UA Fayetteville

- Critical minerals potential in rocks from Arkansas

Alexander Jude (Summer 2023 – Present), UA Fayetteville

- XRD analysis of igneous rocks from the Arkansas Alkaline Province

Lea Meredith (Fall 2017), UA Fayetteville

- Boron isotope analysis of water samples

Groh Jess (Fall 2017 – Spring 2018), UA Fayetteville

- Radiogenic isotope analysis of igneous rocks from the Arkansas Alkaline Province, AR: constraints on their origin

Hardisty Lura (Summer 2016 – Summer 2017), UA Fayetteville

- Trace element geochemical analysis of Magnet Cove Carbonatite Volcanic Complex, AR

Oliveira Paula (Spring 2016), UA Fayetteville

- Trace element geochemical analysis of Magnet Cove Carbonatite Volcanic Complex, AR

Advisor - Undergraduate REU

Evan Flint (May – July 2021), Lafayette College, PA

- Eco REU Program

Wangia Ruth (May – July 2014), Spelman College, Atlanta, GA

- George Washington Carver Research Program
- Won 2nd place at “George Washington Carver Research Program” Poster Competition

Patricio Lau (Summer 2005; Summer 2006), Florida International University

- NSF-funded GeoScope REU project

SERVICE

National Activities

- Co-organizer (exhibits and sponsorship) for 2024 GSA Joint North-Central and South-Central Sections (April 2024; Springfield, MO)
- Co-organizer (student workers) for 2021 GSA Joint North-Central and South-Central Sections (April 2021; Springfield, MO)
- NSF/EAR Petrology and Geochemistry program – Spring panel (April 2021)
- NSF/EAR Postdoctoral Fellowship panel (NSF-18-565) (January 2020)
- NSF Ad Hoc reviewer for Petrology and Geochemistry (February 2019 – Present)
- Member of the editorial board of the “International Journal of Astrobiology and Aerospace Technology” (July 2018 – Present)

- Co-organizer of Discipline Session for 2018 GSA South-Central Section (March 2018)
 - Igneous and Tectonic Activity in the South-Central United States
- Peer Reviewer
 - Applied Geochemistry
 - Atmospheric Environment
 - Fulbright Senior Postdoctoral Award Competition For 2016 – 2017
 - Geochemistry: Exploration, Environment, Analysis
 - Geology
 - Geological Journal
 - International Journal of Environmental Research and Public Health
 - Journal of Geochemical Exploration
 - Mineralium Deposita
 - Minerals

University and College Service

- Fulbright Honors Council (2021 – 2024)
- Office of the Provost Scholarship Review Committee Member (January 2017 – June 2025)

Departmental Service

- Geography Faculty Search Committee (2023)
- Geosciences Personnel Committee Member (2022 – 2023)
- Geosciences Scholarship and Awards Committee Member (2017 – 2020; 2023 – Present)
- Geosciences Curriculum Committee Member (2021 – 2023)
- Geosciences Graduate Committee Member (2021– 2023)
- Geosciences Teaching Assistant Selection Committee Member (2017 – 2020)
- Geology Division MS Graduate Coordinator (January 2020 – May 2020)
- Geosciences Personnel Committee Chair (2019 – 2020; 2020 – 2021)
- Geosciences Scholarship and Awards Committee Chair (2018 – 2019)
- Geosciences Personnel Committee Member (2017 – 2018)
- Geosciences Chair Review Committee Member (October 2018)
- Faculty Search Ad hoc Committee Member (2016; 2023)

PROFESSIONAL DEVELOPMENT

Research

- 2024** Resilient Supply of Critical Minerals National Workshop. Missouri Science and Technology, Rolla, MO; August 7 – 8
- 2015** LA-ICP-MS U-Th-Pb Network Workshop. Geology Department, Charles University, Prague, Czech Republic; August 15 – 16
- 2015** North American Laser Ablation Workshop. Jackson School of Geosciences, University of Texas at Austin; May 27 – 28
- 2014** University of Arkansas Research Camp – Office for Faculty Development and Enhancement. Eureka Springs, AR; October 21 – 22
- 2014** Early Career Geoscience Faculty: Teaching, Research, and Managing your Career. On the Cutting Edge – Professional Development for Geoscience Faculty. University of Maryland; June 22 – 26
- 2013** Spring Inorganic Workshop – PerkinElmer. Ft. Lauderdale, FL; April 16, 2013

Teaching

- 2019** Teaching Retreat – University of Arkansas Wally Cordes Teaching and Faculty Support Center. Eureka Springs, AR; August 5 – 7
- 2016** Teaching Retreat – University of Arkansas Wally Cordes Teaching and Faculty Support Center. Lodge at Mount Magazine, AR; August 7 – 9

2016 Winter Teaching Symposium – Teaching and Faculty Support Center. University of Arkansas; January 14
Faculty Lunch Series – Teaching and Faculty Support Center. University of Arkansas
Faculty Enrichment Series – Teaching and Faculty Support Center, Office for Faculty Development and Enhancement.
University of Arkansas

PROFESSIONAL AFFILIATIONS

American Association of Petroleum Geologists
American Geophysical Union
Geochemical Society
Geological Society of America
Society of Economic Geologists

CONFERENCES ATTENDED

Geological Society of America (Anaheim, 2024)
Unconventional Resources Technology Conference (Buenos Aires, 2023)
Goldschmidt (Honolulu, 2022)
Geological Society of America (Portland, 2021)
Prospectors and Developers Association of Canada (Toronto, 2019)
Society of Economic Geologists (Keystone, 2018)
Goldschmidt (Boston, 2018)
Goldschmidt (Paris, 2017)
Geological Society of America (Denver, 2016)
American Geophysical Union (San Francisco, 2015)
Goldschmidt (Prague, 2015)
Society of Economic Geologists (Keystone, 2014)
Goldschmidt (Sacramento, 2014)
Lunar and Planetary Science Conference (Houston, 2014)
Geological Society of America (Denver, 2013)
Geological Society of America (Charlotte, 2012)
American Association of Petroleum Geologists (Houston, 2012)
American Geophysical Union (San Francisco, 2010)
Goldschmidt (Knoxville, 2010)
Geological Society of America (Portland, 2009)
Geological Society of America (Houston, 2008)
American Geophysical Union (San Francisco, 2007)