

# Erik Lloyd Haroldson

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## Education

- University of Wisconsin-Madison 2017  
**PhD** in Geoscience  
Dissertation: Protracted development of the Reef Deposit: an anomalous Au-Cu occurrence in northern Wisconsin
- University of Wisconsin-Madison 2014  
**MS** in Geoscience  
Thesis: Fluid inclusion and stable isotope study of Magino; a magmatic related Archean gold deposit
- University of Minnesota-Duluth 2006  
**BS** in Geological Sciences, Minor: Geography  
UROF research project: Determination of Ni concentration in Pyrrhotite/Olivine using reflective light microscopy and Electron Microprobe

## Professional Positions

- Assistant Professor**, Austin Peay State University, Clarksville, TN 2018-present  
GEOL 1040 – Physical Geology  
GEOL 3500 – Mineralogy w/lab  
GEOL 3600 – Petrology w/lab  
GEOL 3680 – Principles of Geochemistry  
GEOL 4500 – Laboratory Research Project
- Associate Lecturer**, University of Wisconsin-Baraboo/Sauk County, Baraboo, WI 2017-2018  
GLG 101 – Physical Geology (w/ lab);  
GLG 135 – Introduction to Environmental Geology;  
GLG 102 – Historical Geology (w/lab);  
GLG/GEO 170 – Disasters-Living on the Edge;  
GEO 106 – Introduction to Geographic Information Science (w/lab)
- Teaching/Research Assistant**, University of Wisconsin-Madison, Madison, WI  
Geosci 360; Mineralogy Fall 2014, 2015, 2017  
Geosci 370; Elementary Petrology Spring 2015, 2016, 2017  
Geosci 459; Wasatch-Uinta Field Camp Summer 2015, 2016, 2017  
Geosci 457; White Lake – 1 Week Field Mapping Course Spring 2014, 2015, 2016  
Geosci 350; Global Geophysics Spring 2013
- Acquisition Manager**, Argonaut Gold Inc., Ontario, Canada Summer 2013  
Evaluate exploration acquisition opportunities  
Develop team oriented evaluation system  
Geological consultant on company exploration projects

<b>Project Manager/Senior Geologist</b> , Prodigy Gold Inc., Ontario, Canada Promoted from Project Geologist through to Project Manager Manager of two company flagship projects Mapping, 3D modeling, core logging, budgeting, hiring, mentoring	2008 – 2013
<b>Geologist</b> , US Gold Corp., Elko, NV, USA and Guamuchil, Sinaloa, Mexico Promoted from Junior Geologist to Geologist Developed regional resource projects in Nevada and Mexico Drill rig management, mapping, core and chip logging, database management	2006 - 2008
<b>Geologist</b> , Polymet Mining Inc., Hoyt Lakes, MN, USA RQD and geotechnical core logging Drill core sampling Outcrop mapping, drill site location	Summer 2005
<b>Field Technician</b> , STS Consultants, Minneapolis, MN, USA ASTM tests on concrete, soil and bitumen Soil boring rig assistant	Summer 2004

## Short Courses/Workshops

<i>Teaching your upper-level course online: A Community Collaboration to build robust online Geoscience courses</i> Earth Educator's Rendezvous - Karen Viskupic, Anne Egger, Jennifer Wenner	2020
<i>Early Career Geoscience Faculty Workshop</i> Science Education Resource Center (SERC) - Tessa Hill, Sarah Penniston-Dorland, Josh Galster, Anantha Aiyyer, Jennifer Anderson, Andrew Goodliffe, Cynthia Hall, Kaatje Kraft, Benjamin Laabs, Martin Wong, Carol Ormand	2019
<i>Broadening Participation of Underrepresented Minorities in Geosciences</i> Earth Educator's Rendezvous – Jessica Oster, De'Etra Young, Lily Claiborne	2019
<i>Advancing Diversity, Equity, and Inclusion to Strengthen the Geoscience Community</i> AGU – Annual Meeting – Kuheli Dutt, Ben Keisling, Gari Mayberry, Wesley Henson, Sharon Cooper, Deb Morrison, Heidi Steltzer	2018
<i>Best Practices for Modern Open-Source Research Codes</i> AGU – Annual Meeting – Leonardo Uieda, Lion Krischer, Lindsey Heagy, Florian Wagner	2018
<i>Pangeo: Scalable Geoscience Tools in Python</i> AGU Annual Meeting – Ryan Abernathy, Joe Hamman, Scott Henderson	2018
<i>Establishing and Sustaining an Undergraduate Research Program</i> AGU Annual Meeting – Lydia Fox, Pat Manley, Meagen Pollock, Jeff Ryan	2018
<i>Bringing Geoscience Practices into the Classroom: Developing Students Skills</i> AGU Annual Meeting – Anne Egger, Laura Rademacher	2018

<i>Engaging Environmental Justice in Geoscience Courses</i> AGU Annual Meeting – Sarah Fortner, Richard Gragg, Rob Rohbaugh, Cathy Manduca	2018
<i>Storyboarding Your Science: Creating Engaging, Effective Communication</i> AGU Annual Meeting – David Rogers, Francesca Samsel, Matteo Farinella, Celia Gurney	2018
<i>Analytical Methods in Geoscience (AMiGEO): Open Education Resources Modules for Lab Instr.</i> AGU Annual Meeting – Elizabeth Johnson, Juhong Christie Liu	2018
<i>NSF Funding Opportunities and Merit Review</i> GSA Annual Meeting – Margaret Frasier	2018
<i>Social Media for Scientists 101</i> GSA Annual Meeting – Wendy Bohon, Beth Bartel, Justin Samuel	2018
<i>RISE: Harassment Resistance and Active Bystander Intervention</i> GSA Annual Meeting – Sherry Marts	2018
<i>Helping Students Thrive in Geosciences at Two-Year Colleges: Selected Strategies</i> GSA Annual Meeting – Norlene Emerson, Eric Baer	2017
<i>BIAS training workshop</i> UW-Madison Graduate School – Patricia Devine, William Cox	2017
<i>Ethics on the Edge: Scientific Integrity and Geoethics for a Changing World</i> GSA Annual Meeting – Linda Gunderson, David Mogk	2016
<i>Exploration Targeting in a Business Context</i> Mineral Exploration Roundup – Steve Bussey, Jon Hronsky, Brad Margeson	2011
<i>Gemcom GEMS (mining software) training</i> Modules: Foundations, Geologic Modeling, Resource Modeling In-House company sponsored	2009
<i>Carbonate Sequence Stratigraphy</i> In-House company sponsored – Harry Cook	2006

## Publications

**Haroldson, E.**, Wolak, J., Van Boening, A., and Pattat, A., 2020, 40 years of building networks, knowledge, and skills through friendly competition: the Tennessee Geoconclave, In *The Trenches*, vol. 10, no. 1, p. 2-5, <https://nagt.org/nagt/publications/trenches/v10-n1/index.html> (*not peer reviewed*)

**Haroldson, E.L.**, Brown, P.E., Ishida, A., Valley, J.W., SIMS oxygen isotopes indicate Phanerozoic fluids permeated a Precambrian gold deposit, *Chemical Geology*, vol. 533, p. 1-17, article 119429, <https://doi.org/10.1016/j.chemgeo.2019.119429>

**Haroldson, E.L.**, Brown, P.E., Bodnar, R.J., 2018, Involvement of variably-sourced fluids during the formation and later overprinting of Paleoproterozoic Au-Cu mineralization: Insights gained from a fluid inclusion

assemblage approach, *Chemical Geology*, vol. 497, p. 115-127,  
<https://doi.org/10.1016/j.chemgeo.2018.08.027>

**Haroldson, E.L.**, Beard, B.L., Satkoski, A.M., Brown, P.E., Johnson, C.M., 2018, Gold remobilization associated with Mississippi Valley-type fluids: a Pb isotope perspective, *Geological Society of America Bulletin*, vol. 130, no. 9–10, p. 1583–1595, <https://doi.org/10.1130/B31901.1>

## **Meeting Abstracts** (undergraduate students in bold)

**Vogelpohl, A., Benoit, J., Kohl, M., Haroldson, E.**, 2020, *Fluid and solid inclusions in the Mosheim Anticline occurrence of East Tennessee Field Diamonds (quartz crystals)*, Geological Society of America Abstracts with Programs, vol. 52, no. 2, <https://doi.org/10.1130/abs/2020SE-344560> accepted but not presented due to covid-19

**Wells, J.**, Haroldson, E., 2020, *Sources for mineralization in Kentucky Dam: implications for dam stability*, Geological Society of America Abstracts with Programs, vol. 52, no. 2, <https://doi.org/10.1130/abs/2020SE-345009> accepted but not presented due to covid-19

Casey, M., Haroldson, E., Pattat, A., Van Boening, A., Wolak, J., Gibson, M.A., 2020, *Celebrating 40 years of Tennessee Geoconclave: building skills for the future*, Geological Society of America Abstracts with Programs, vol. 52, no. 2, <https://doi.org/10.1130/abs/2020SE-344427> accepted but not presented due to covid-19

Haroldson, E., Kohl, M., 2020, *Fluid and solid inclusions in East Tennessee Field Diamonds (doubly terminated quartz crystals)*, Geological Society of America Abstracts with Programs, vol. 52, no. 2, <https://doi.org/10.1130/abs/2020SE-345076> accepted but not presented due to covid-19

Haroldson, E., 2018, *Our time around the lake: a hiking tour historical geology group project*, Geological Society of America Abstracts with Programs, vol. 50, no. 6, paper no. 178-1, <https://doi.org/10.1130/abs/2018AM-323397>

Haroldson, E.L., Brown, P.E., Bodnar, R.J., 2018, *Assorted roles of diverse variably-sourced fluids during the protracted formation history fo a Au-Cu deposit: a fluid inclusion assemblage perspective*, Geological Society of America Abstracts with Programs, vol. 50, no. 6, paper no. 243-5, <https://doi.org/10.1130/abs/2018AM-324304>

Haroldson, E., Brown, P., Ishida, A., Valley, J., 2017, *Phanerozoic fluids permeating a Precambrian gold deposit examined by SIMS: Implications for remobilization of gold*, Geological Society of America Abstracts with Programs, vol. 49, no. 6, paper no. 2-4, <https://doi.org/10.1130/abs/2017AM-305949>

Haroldson, E., Valley, J., Bodnar, R., Ishida, A., Brown, P., 2017, *Fluid history of the Reef Deposit using fluid inclusions and oxygen isotopes*, Proceedings and Abstracts - Institute on Lake Superior Geology Meeting 63, p. 40-41

Haroldson, E., Beard, B., Satkoski, A., Johnson, C., Brown, P., 2016, *Phanerozoic Au in a Paleoproterozoic Cu Vein deposit of Central Wisconsin; Evidence from Pb Isotopes Using LA-ICP-MS*, Geological Society of America Abstracts with Programs, vol. 48, no. 7, paper no. 212-13, <https://doi.org/10.1130/abs/2016AM-281534>

Haroldson, E., Brown, P., 2016, *Cathodoluminescence imaging and fluid inclusions of the Reef deposit, a Paleoproterozoic Au-Cu occurrence in central Wisconsin, USA*, PACROFI XIII, The Edwin W. Roedder, Pan-American Current Research On Fluid Inclusions Conference, p. 57-58

Haroldson, E., Beard, B., Satkoski, A., Johnson, C., Brown, P., 2016, *U-Th-Pb isotopes of the Reef Deposit; a Au-Cu occurrence in central Wisconsin*, Proceedings and Abstracts - Institute on Lake Superior Geology Meeting 62, p. 60-61

Haroldson, E., Brown, P., 2015, *Magmatic Fluids are a Primary Source of Archean Gold at Magino; Fluid Inclusion and Stable Isotope Evidence*, Geological Society of America Abstracts with Programs, vol. 47, no. 7, p. 519, paper no. 206-14

Haroldson, E., Brown, P., 2014, *Magmatic Fluids are a Primary Source of Archean Gold at Magino; Fluid Inclusion and Stable Isotope Evidence*, Programs and Abstracts - PACROFI XII, 12<sup>th</sup> Biennial Conference, Pan-American Current Research On Fluid Inclusions, p. 63-64

Haroldson, E., Brown, P., 2013, *Fluid Inclusion study of the Magino Archean Gold Deposit; Implications for Regional Mineralizing Systems*, Proceedings and Abstracts - Institute on Lake Superior Geology Meeting 59, p. 31-32

## Invited Presentations

*Protracted development of a gold (Au) deposit* 2019  
Murray State University, Seminar Series

*Geology and Volcanoes* 2018  
Carmel Elementary 4<sup>th</sup> graders

*Geology of the Baraboo Region* 2018  
UW-Baraboo/Sauk County, Adam's-Friendship township student campus visit

*Geological Resources and Mining* 2017  
UW-Baraboo/Sauk County, BIO 190: Introduction to Environmental Science Guest Lecture

*Exploring the Exploration Career Track* 2017  
UW-Madison undergraduate geoclub monthly meeting

*Evolution of Western Continental United States and Exploration in Nevada by US Gold Corporation,* 2007  
Geological Society of Nevada; Elko Chapter Monthly Meeting

*Exploring for Gold in the 21st Century,* 2007  
Public Seminar Series: University of the Pacific Geosciences Department

## External Awards

American Chemical Society Petroleum Research Fund Undergraduate New Investigator (\$55,000) 2020

Geological Society of America - Research Grant (\$2,000) 2015

Society of Economic Geologists – Canada Foundation – Research Grant (\$3,000) 2015

Society of Economic Geologists – Canada Foundation – Research Grant (\$2,000) 2013

Prodigy Gold Inc. - Graduate Studies and Research Grant (\$52,000) 2012

## Internal Awards

APSU Access and Diversity Funding (\$1,500) 2019

TAF Faculty Technology Innovation Grant – Heating/Freezing stage (\$25,000) 2019

Erik Haroldson – Curriculum Vita

APSU Distance Education Travel Stipend (\$2,500)	2018
UW-Baraboo/Sauk County Professional Development grant (\$333)	2017
UW-Madison Graduate School Student Research Grant (\$600)	2017
Conference Presentation Funds	
Mark and Carol Ann Solien Research Assistantship	2015
UW-Madison Graduate School Student Research Grant (\$1,200)	2015
Conference Presentation Funds	
Robert L. Heller Scholarship	2006
Robert C. Bright Scholarship	2006

## **Certification/Licensure**

Professional Geoscientist (P.Ge)	2013-2016
Association of Professional Geoscientists of Ontario, License 2297	

## **Service**

APSU Diversity Committee	2019-present
GeoClub Faculty Advisor	2018-present
Outstanding Student Paper Awards (OSPA) Judge – AGU Annual Meeting	2018
Seismology/Geodesy Early Career Luncheon Mentor – AGU Annual Meeting	2018
GeoCareers Day Roundtable Mentor – GSA Annual Meeting	2018
Resume Clinic Mentor – GSA Annual Meeting	2018
Rock ID Event Coordinator – Annual Tenn. State Parks Geology Conclave	2018
Appointments Committee – UW-Baraboo/Sauk County	2017-2018
President – Rocky Bluff Neighborhood Association	2014-2018
Invited Peer Review (2 separate articles) – Ore Geology Reviews (IF: 3.095)	2018
Faculty Liaison - Geoscience Graduate Student Association (GGSA)	2016-2017
Field Trip Committee - Geoscience Graduate Student Association (GGSA)	2013
Booth Presenter - UW Geology Museum, Madison Gem and Mineral Show	2013
Booth Presenter - UW Geology Museum, A Night at the Museum	2013
National Alliance on Mental Illness (NAMI) Walks - Dane County	2012-2016
Project Homeless Connect - Saint Paul, MN	2010
SEG Special Session Chairperson – World Class Deposits	2007
Northwest Miner’s Association Annual Meeting	

## **Memberships**

Society of Economic Geologists (Fellow, SEG), Geological Society of America (GSA), Society for Geology Applied to Mineral Deposits (SGA), Mineralogical Society of America (MSA), National Association of Geoscience Teachers (NAGT)