

January 2019



MONTANA GEOLOGICAL SOCIETY

NEWSLETTER

Vol 63 No. 2



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Send in your RSVP for the upcoming MGS Luncheon featuring guest speaker Julia Reece.

Upcoming Event:

Mar 28 - MGS Luncheon - Julia Reece (see page 7)

Contact Us:

mtgeo.org / montanageologicalsociety@gmail.com

Add our email address to your contacts so your Newsletters & Luncheon announcements don't end up in Spam!

Find us on 

PO Box 844
Billings, MT 59103

President's Letter

Dear Membership,

Happy New Year! With the beginning of 2019 I would like to reflect on the accomplishments and look towards to improvements that can be implemented in this year.

Personally, I was able to finish another year of teaching, began a small research project on the Stillwater chromatites, and had a paper accepted to American Mineralogist. This year I hope to have two more papers published, take my students on more field trips and write a major grant for the NSF.

In regards to the MGS, we had another successful speaker program, produced volunteers to help judge the ScienceExpo, and helped pay for a portion of the YBRA educators' program. I hope to see another successful year of guest speakers, more volunteer opportunities, and some MGS swag available for getting the word out about our organization.

I look forward to hearing about others' New Years reflections and improvements at the next luncheon on Jan. 29th!

MGS President,

Sarah Friedman

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Felipe Pimentel

It's that time of year... Time to **Renew your MGS Membership!**

Use our convenient online renewal system at mtgeo.org, or print & complete the renewal form at the back of the Newsletter!



Last Week to Apply!



Montana Geological Society

PO Box 844 • Billings MT 59103

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Montana Geological Society 2018-2019 Annual Research Scholarships

Purpose

The Montana Geological Society (MGS) is a non-profit organization created in 1949 "...to promote interest and research in geology and allied sciences and their practical application, and to encourage fellowship and cooperation among the members." This annual award supports these goals by providing financial assistance for up to two student dissertation, thesis, or senior projects involving Montana geology and by providing a venue for students to present their work to geology professionals in Montana.

Award

Up to two scholarships, one for **\$2,000**, and one for **\$1,000**, may be awarded each year to the most qualified applicants. The successful applicants agree to present their research results at a luncheon meeting of the MGS in Billings, MT, and will receive reimbursement for travel expenses to and from Billings in addition to the scholarship amount.

Basis of Award

All projects will be reviewed by a committee composed of Officers and Board Members of the MGS. The award will be made based on project merit, difficulty, and innovation appropriate for the applicant's educational level. Projects in the early to middle stages of research will receive preferential consideration over those at or near completion. The awards will only be made to fully qualified and deserving applicants, if any, as determined by the committee.

Eligibility

Scholarships are available only to full-time students working toward a BA, BS, MS, or Ph. D degree in an accredited geology or earth science program at a Montana college or university. The research area must be based at least partially in the state of Montana.

Application Packet

Applicants must submit **1.)** a **brief** cover letter that summarizes the applicant's educational background, current student status (B.S., M.S., Ph. D), anticipated graduation date, and research interests. Include name, mailing address, email address, and phone number, **2.)** a **short** (300 words or less), **concise** summary of their approved or proposed project that includes study area, purpose, and applicability of research to Montana geology, along with an advisor's signature, **3.)** a work flow timeline, and **4.)** an estimated itemized annual budget which specifies how the funds from this award will be used. The budget must include the amount and source of all other project funding.

Deadlines

Applications can be emailed (preferred) or mailed. Emailed applications (as attached file(s) in any standard format) must be sent to montanageologicalsociety@gmail.com no later than 11:59 p.m., **January 31st**. Mailed applications must be post marked no later than **February 1st**, and should be addressed to: Montana Geological Society, PO Box 844, Billings, MT 59103. Awards will be announced and payment made in the form of a check to the successful applicant no later than **April 1st**.

Who's Who of the MGS

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weren't hungry...*

*They'd lost their
apatite.*

*Have something geological to sell, give,
or find?*

Place a free ad in our MGS Classifieds!

Contact the Newsletter Editor for more information.

Visiting the Past

The photograph below was kindly submitted by the daughter of Robert Weidman (deceased), a former professor at MSU/University of Montana.

This particular photograph was taken during a Feb 13, 1954 SGE trip to Butte & Anaconda. The slide was labeled:

Mont. # 1, p.5 SGE Kelly Shaft trip, Butte, 2-13-54.

L to R: Myron Leischner, __, __, Carl Primus, __, Don McGregor, Fred Yale, Marv. Nelson, Durwood Johnson. Mouth of Kelly Shaft.

If you recognize any of the additional individuals in this photo, please reach out to us to help us “fill in the blanks.”



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MGs Luncheon Meeting

Thursday, March 28th, 2019

12:00 PM at the Billings Petroleum Club

Save the Date!

RSVP – montanageologicalsociety@gmail.com



JULIA REECE

INTERNATIONAL OCEAN DISCOVERY PROGRAM (IODP) LECTURER

Mud and Bugs Under Stress: Compression of Marine Sediments Beneath the Seafloor

Fine-grained sediments such as mudstones are the most common sedimentary rocks preserved close to Earth's surface. Mudstones are very susceptible to developing significant amounts of overpressure because their low permeability and high compressibility prevent pore fluids from draining. This can result in seepage, submarine landslides, or damage to offshore infrastructure. Additionally, mudrocks are fundamentally important as source, seal, and shale gas/oil reservoirs in petroleum systems or as seals for anthropogenic-related storage. In spite of the importance of mudstones to significant hazards and industry endeavors, a systematic, process-based understanding of the controls on hydromechanical properties in mudstones remains elusive. To study these questions Dr. Reece fabricates mudstones in her laboratory from natural, marine sediments, acquired through the International Ocean Discovery Program and its predecessors, using a technique called resedimentation. Resedimentation simulates the natural process of deposition and shallow burial under controlled conditions, is repeatable, and eliminates the problem of coring disturbance associated with testing on intact cores. Therefore, resedimentation is an ideal method for the study of fundamental mechanical behavior of marine sediments. In combination with microscale imaging techniques it also reveals how porosity, permeability, and fabric evolve with burial. Dr. Reece particularly focuses on the interactions between fine-grained detrital particles, microorganisms, microfossils, and pore fluid and their roles in early diagenesis. Here, Dr. Reece will present results from investigations of early chemical and physical diagenesis using mudstones from the Gulf of Mexico (IODP Expedition 308) and offshore Japan (IODP Expedition 322).

Biography

Dr. Reece is an assistant professor in the College of Geosciences at Texas A&M University and studies the hydromechanical behavior of marine sediments. She was a Schlanger Ocean Drilling Fellowship recipient and participated in two IODP Expeditions (Expeditions 308 and 322).



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Business Card- \$10/month

All ads must be prepaid.
Send payment to:
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Billings, MT 59103

If you'd like to share a geological experience (trip, hike, etc.) or an upcoming event in next month's newsletter, please submit your text & images to montanageologicalsociety@gmail.com.

MONTANA GEOLOGICAL SOCIETY

P.O. Box 844

Billings, MT 59103

Membership Renewal

Last Name _____

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ANNUAL DUES:

_____ \$20.00 Regular

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Degree #1 _____

Degree #2 _____

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MONTANA GEOLOGICAL SOCIETY

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2006 AAPG Datapages - MGS Publications DVD		\$180.00	
2006 AAPG Datapages - MGS Publications DVD (MGS Member price)		\$150.00	
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