

April 2017



MONTANA GEOLOGICAL SOCIETY NEWSLETTER

Vol. 61 No. 7

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P2 / PRESIDENT'S LETTER

This month's letter discusses a few exciting opportunities for education in our area.



P5 / PPD 2017

Take a look at a photo review of this year's successful Past President's Dinner.



P6 / LUNCHEON

Read all the details of the upcoming MGS Luncheon - you won't want to miss this!



P8 / RMS-AAPG

Get registered now for the 2017 RMS-AAPG Section Meeting, to be held in Billings.

Upcoming Events:

- April 21** - Luncheon talk by 2016 MGS Scholarship Award Recipient Crystal Nielsen
- April 22** - Rally for Science at ZooMontana; 10-4.
- May 5** - Luncheon talk by AAPG Distinguished Lecturer Timothy Collett
- May 18** - Beer30: Hawaii Volcanoes by Jack Warne

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,

I would like to thank all of you who ventured out for the Past President's Dinner, with a special thanks to Betsy Campen for making it all work, and to Riley Brinkerhoff for making the long trek here from Texas just to be put on the spot. I was too busy at the dinner to get any pictures, but I'm sure a few will surface. That event and other recent MGS activities remind me how lucky I am to be involved in MGS. It is very refreshing to be around people who love and support earth sciences, and want to share their experiences.

I was able to get a few pictures of the students lined up to make rock jewelry, or see rocks that glow at the Science Expo. I had many interesting responses to my question "Do you like rocks?" One pre-school girl asked me "What is the name of this rock?" as she slowly made her way through every specimen. The time seemed to fly by, and I left the gym feeling glad that I found something better to do with my Saturday than all the things I needed to do at home.



On April 4th, several MGS members made their way over to MSU-B to listen to our MGS Treasurer Sarah Friedman present some of her research in a talk titled "Magnetic Properties of the Earth's Mantle and Montana's Anomalous Special Case". It was a very interesting presentation and well-attended. Sarah is currently teaching Geology at MSU-B, and is a candidate for a tenure track position. After her presentation, Sarah spoke of her plans to develop a two-year Associate's of Geology Degree program at MSU-B. Students graduating from the proposed program would have a good background in Geology and could then transfer to schools with four-year degree programs. The program would be good for Billings area students, and for our organization. Please show your support for Sarah if you get the chance!



Psst!
Check out Page 5
for photos!

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President	Kevin Chandler	406-272-1605
Vice President	Felipe Pimentel	352-514-3607
Treasurer	Sarah Friedman	406-896-5931
Secretary	Tom Hewett	406-281-8203
Past President	Riley Brinkerhoff	

It is always exciting to hear what young Geologists in our area are studying. We have several upcoming talks on local geology by young scientists. At the Montana Bureau of Mines and Geology March Research Seminar, one of the young geologists, Jesse Mosolf, gave a presentation on how to lighten your field pack by using a smart phone. He explained how his smart phone could replace his GPS, camera, and his Brunton. I recently installed an App called "Strike and Dip" on my cell phone and gave it a try in my study area near Dean. The operation is simple,



and after adjusting the phone on the rock surface, one touch of the save button records the strike and dip, location, and the time of your measurement. It will also record your route as you take measurements. Jesse recorded hundreds of measurements with his phone and his Brunton, and found a high level of agreement. My quick readings on a few spots near Dean were in good agreement with values reported on the geologic map, but the tech-

nology didn't make it easier to find sites for good measurements on the cross-bedded sandstone in the Judith River and Eagle formations. Jesse has agreed to speak at one of our luncheons this June on his geologic mapping work in south central Montana. With spring well on its way, I hope you get the chance to strike off in a positive direction and dip towards good friends and family,

Kevin Chandler
MGS President

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*A can of pop in a
conglomerate.*

*Anyone lost their
Coca-Cola clastic?*

***Have something
geological to sell,
give, or find? Place
a free ad in our
MGS Classifieds!
Contact the
Newsletter Editor
for more
information.***

Applications Sought for Wyoming State Geologist

The State is seeking applicants for a six year appointment to the cabinet level position of State Geologist/Director of the Wyoming State Geological Survey, based in Laramie, Wyoming. The State Geologist is the chief administrator of the Wyoming Geological Survey, as well as a member of various boards, commissions and groups in Wyoming. The applicant must meet statutory requirements as per Wyo. Stat. §9-2-801 through §9-2-810. Résumés accepted until position filled.

For further details or a full job description, contact Colin McKee:

Wyoming Governor's office

Phone: 307-777-7930 or

Email: colin.mckee@wyo.gov

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Past President's Dinner

Thank you to all who joined us in celebrating
(and roasting!) our past President Riley Brinkerhoff!

We were so pleased that Riley was able to join us again for this special night. Thanks to Riley for being such a great sport, and to Kevin for a fantastic roast!

Also, a big Congratulations to MGS Member Betsy Campen, who was awarded the 2016 Robert J. Weimer Lifetime Contributions Award -- an award given to one RMS-AAPG member each year in recognition of lifetime contributions to the practice of geosciences and/or petroleum geology in the Rocky Mountains region. No one is more deserving!

2016 Robert J. Weimer Lifetime Contributions Award

recognizing lifetime contributions to the practice of the geosciences
and/or petroleum geology in the region of the Rocky Mountains



*Elizabeth Bartow
Campen*

In recognition of her lifetime contributions to the profession of petroleum geology, especially in regards to her support of the Montana Geological Society through leading field trips, mentoring many young geologists, supporting geology through public outreach, and being a leader of the Montana petroleum community.

Throughout her long career, Elizabeth (Betsy) Campen has been an active supporter of the Montana Geological Society (MGS), serving in nearly every office including being elected the first female president of MGS. She also served AAPG in several ways: as AAPG Secretary, EMD secretary and as a Visiting Geoscientist.

Betsy has always been active in passing on her knowledge and enthusiasm for the study of geology to others. She led numerous field trips, was involved in teaching children about rocks and presents an annual earth science award at the Science Fair. In addition, she has been active in the Yellowstone Bighorn Research Association which runs a field station in the Beartooth Mountains used for field camp.

It is an honor to present Elizabeth B. (Betsy) Campen with the Robert J. Weimer Lifetime Achievement Award.

For more photos, check out the MGS Facebook page!



MGS Luncheon Meeting

Friday, April 21st

11:45 am – Billings Petroleum Club

Please join us for lunch (\$14) and the talk (no charge)

RSVP – montanageologicalsociety@gmail.com

An email reminder will be sent 3 days prior to the talk

CRYSTAL NIELSEN

2016 MGS SCHOLARSHIP WINNER

Student - Montana State University, Bozeman



Gravelly Range: Tertiary Geology and Vertebrate Paleontology

Geological and paleontological field research in the Gravelly Range of Southwestern Montana was done the summer of 2016 to collect data to refine the age and paleoenvironments of Tertiary strata exposed throughout the south-central part of the mountain range. Vertebrate fossil specimens were collected for preparation and stratigraphic sections were compiled to help correlate and interpret the depositional environments for separate localities in the Black Butte, Lion Mountain, and Tepee Mountain areas, where Tertiary strata is thickest. Collected fossil vertebrate specimens are currently in the process of preparation at the Alf Museum, Claremont, California. Vertebrate fossils collected include *Rapamys* skulls; *Miohippus*, *Palaeolagus*, and *Rapamys* teeth; and *Brontotheridae* tibia, patella, and radius fragments. Interpreted depositional environments include alluvial, primarily floodplain settings and aeolian events. This initial work is to be followed up by two more years of work with finalized fossil data to further constrain ages and new field collections. Additional geologic work, including detailed geological mapping and supplementary stratigraphic section measurements, needs to be done to help determine the overall geologic history of this part of the Gravelly Range.

Biography

Crystal Nielsen is an undergraduate student at Montana State University, Bozeman MT, studying Earth Sciences with a concentration in Geology and a minor in Geographic Information Systems. She took up an interest in sedimentation and stratigraphy while taking a sedimentation and stratigraphy class taught by Dr. Debra Hanneman (Whitehall Geogroup, Inc.). Crystal was later invited by Hanneman to attend a short trip with herself, Dr. Don Lofgren (Webb Schools and Raymond M. Alf Museum of Paleontology), and Alan Tabrum (Carnegie Museum of Natural History) around Southwestern Montana prospecting Tertiary exposures in the summer of 2015, leading to the opportunity to work with Hanneman and Lofgren in the Gravelly Range of SW Montana in the summer of 2016, doing geological and paleontological field work in Tertiary strata.

Billings Gem & Fossil Show

May 6–7, 2017

Saturday, May 6 10:00 am – 5:00 pm

Sunday, May 7 10:00 am – 4:00 pm



Adult Admission \$3.00 (Children Under 12 Free)

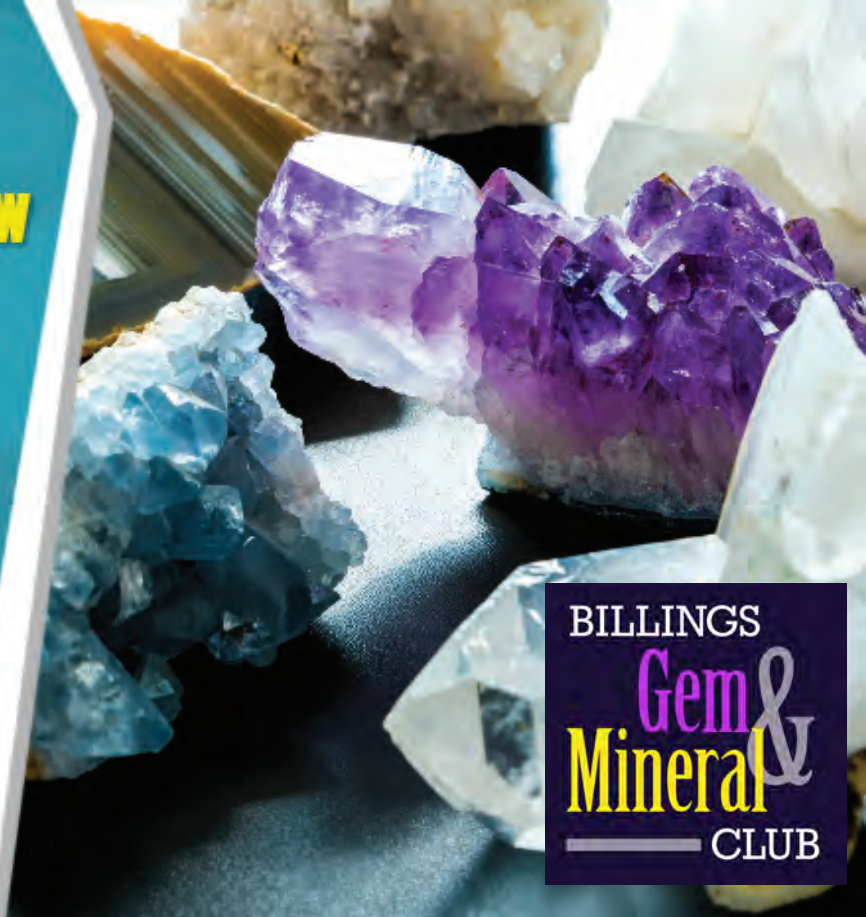
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<http://www.billingsgemclub.com/>

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Early registration ends May 25

<http://rmsaapg2017.com/>

For more information contact:

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svandelinder@ballardpetroleum.com

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mmillard@sm-energy.com



Call for Photos!

Do you have photos of past MGS events,
MGS members, or Montana geology?
If so, we'd like to see them!

For a chance to have your photo featured in
the MGS Newsletter & MGS Facebook page,
please submit your
high-resolution photograph(s) and full name
to montanageologicalsociety@gmail.com



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Wyoming Geological Association

Geology & Energy Resources of Northern Wyoming

September 8-11, 2017

**NEW
DATE!**



Conference to be
held in beautiful
Casper, Wyoming

More details to
come!

This year's conference will focus on all general (energy AND non-energy-related) geologic topics in the northern half of Wyoming.

Call for Papers

You are invited to submit a technical paper relating to this year's theme. Collected papers will undergo peer review and will be released in an upcoming WGA Guidebook. Submit papers to info@wyogeo.org by **JUNE 5, 2017**

Call for Speakers

In addition to papers, we are inviting people to present at a one-day technical session on topics related to this year's theme.

FOR MORE INFORMATION ON PAPER GUIDELINES OR SPEAKING, CONTACT:

Mike Mellin: 307-702-0813
mike.mellin@ur-energy.com

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