



The Record

Denver Geophysical Society

Volume 48 Number 4 August 2023

Upcoming Events

IMAGE 2023
August 28—September 1, 2023
Houston, TX

DGS September Luncheon
September 14, 2023
Wynkoop's
Denver, CO

DGS Rockies Baseball
September 26, 2023
Coors Field
Denver, CO

DGS 2024 Officer Elections
October 1-15, 2023

DGS October Luncheon
October 12, 2023
Wynkoop's
Denver, CO

DGS November Luncheon
November 9, 2023
Wynkoop's
Denver, CO

DGS Holiday Party
December 14, 2023
Ellie Caulkins
Denver, CO

In This Issue

Executive Corner—Page 2

Student Corner—Page 5

DGS Officer Nominations—Page 7-8

Monthly Luncheon Abstracts—Page 9

Events—Page 10

DGS Golf Tournament

Keep It Professional—Page 14

DGS Meeting Minutes—Page 15

Contact Information—Page 3

Advertise—Page 14

About DGS—Page 18

Executive Corner

By Jeff Zawila
SM Energy
DGS President

2024 Election Season: We Want You!

Wow! Summer sure flew by! I hope everyone had an amazing summer filled with joy, fun, safety, and laughter with family and friends. I certainly did and had a chance to check out some amazing outcrops in Utah's five National Parks. I strongly recommend hiking the Narrows in Zion National Park. It's one of the first times in my life that I told my girls to get wet and hike through a river! They looked at me funny when I first suggested it though, but we had a blast!

I have two topics to discuss in this letter...

First, the DGS elections are coming up! We have a slate of candidates on the ballot, but if there is anyone else that is interested in an officer position or committee role, please contact anyone on the Executive Committee. It takes dedication to keep the completely volunteer DGS organization charging ahead with the 3DSS, luncheons, golf tournament, Christmas party, and other social events. We need your help! Membership write-in candidates are due September 15th and voting will be in October.

Second, I want to comment on the enrollment in US higher education geoscience programs and correlations to oil prices. Figure 1 below shows how enrollment in undergraduate and graduate programs has decreased since 2015. Notice the major drop in the early 1980's and again after 2015.

The American Geosciences Institute contributes the 2015 decline on students not selecting geosciences as

a career path in the shale industry due to oil prices softening, the pandemic caused an overall drop in undergraduate enrollments, and an increase in the number of online-only geoscience programs that make identifying majors difficult to track. Of particular note is the first drop in graduate enrollment since the 1980's due to the pandemic, graduate programs admitting less students, and uncertainty about employment prospects.

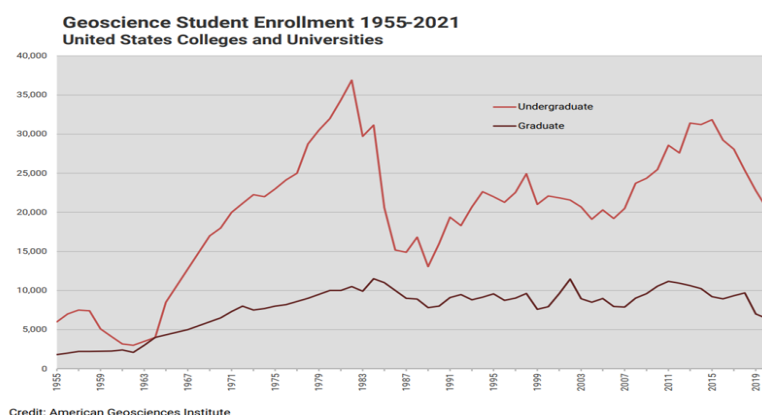
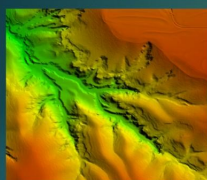


Figure 1. Geoscience Student Enrollment.

<https://www.americangeosciences.org/sites/default/files/DB-2022-010-Enrollments-Degrees-2021.pdf>

Continued, p. 4

EE GeoTech



- Map Image Geo-referencing & Digitizing
- Topographic and Satellite Imagery
- Elevation models/Lidar
- Data Mining
- Raster/Vector Analysis
- Coordinate Conversions
- Other GIS needs

Erik Elgerd eelgerd7332@gmail.com
303-915-1241

Join us for DGS Rockies Baseball!

Tuesday Afternoon
September 26, 2023

contact Andrew Keene
with any questions
akeene@sm-energy.com

Information for Contributors

Your editorial contributions are encouraged, particularly about classes, seminars, personnel news, company news, or other items of interest to the geophysical community. All suggestions and manuscripts should be emailed to DGS at office@denvergeo.org. Targeted deadline for submissions is the first of the publication month (February, May, August, November) but exceptions can be made with the editor's approval. We reserve the right to edit all material according to standard practices.

Opinions expressed within are solely those of the authors. They are not to be interpreted as those of the DGS.

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3D SEISMIC SYMPOSIUM

SARAH GACH and MARK DAVIDSON

3DSSchair@denvergeo.org

CONTINUING EDUCATION

TRAVIS PITCHER travis.pitcher@bpx.com

GOLF TOURNAMENT

BRIAN PLUEMER and MATTHEW ROMERO

golf@denvergeo.org

LUNCHEON PROGRAM - TRAVIS PITCHER

travis.pitcher@bpx.com

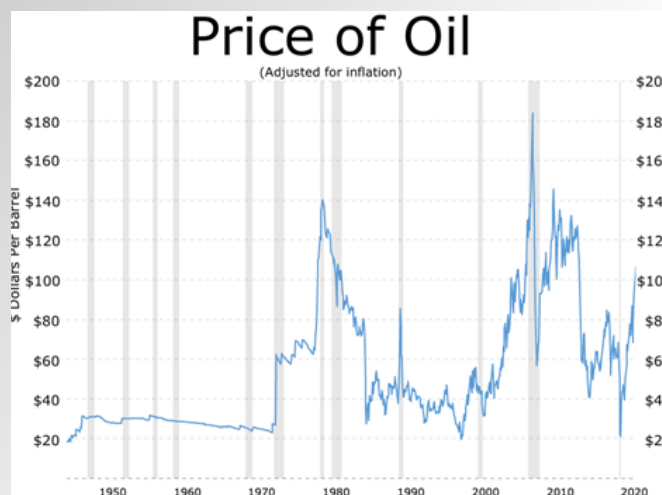
MEMBERSHIP - ANDREW KEENE

akeene@sm-energy.com

NOMINATIONS - MARK DAVIDSON

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Figure 2 highlights WTI oil prices since 1940's adjusted for inflation. There is a direct correlation in the oil prices of the 1970's and early 1980's and late 2000's and early 2010's with geoscience enrollment. That response is pretty obvious!



Now, the downward trend since 2015 is fascinating given students' perceptions regarding the impact of hydrocarbon development on climate change, the uptick in green energy, and AI/technology trends. How this trend plays out in the future will be interesting to see, especially with the continued retirement of experienced geoscientists! Each one of us can encourage young aspiring STEM candidates to consider a future role in the geosciences (I'm thinking geophysics!). I think the future is bright given that demand for geoscientists will likely be high since there are less and less of us around.

Figure 2. Historical WTI oil prices since 1950. Source- https://en.wikipedia.org/wiki/West_Texas_Intermediate

I certainly have started with my daughters by encouraging them to get wet by hiking the Narrows and explaining cross-bedded sandstone to them (Figure 3). I encourage you to cheer on budding geoscientists!



Figure 3. The Narrows at Zion National Park

Cheers,
Jeff Zawila
DGS President

Student Corner — SEG Student Challenge Bowl World Finals

17 teams participated in the Challenge Bowl World Finals during IMAGE 2023

It was impressive to see the global participation of student teams competing in the SEG Challenge Bowl World Finals. After some technical difficulties getting the new hybrid format up and running, the Challenge kicked off with 8 in-person teams and 9 teams competing remotely.

Competition was fierce as teams vied for the fastest accurate answer. After Round 1, 14 teams remained in the running. Round 2, with more difficult questions, decimated another 9 teams including our DGS representatives. Congratulations to the team from Nigeria for their great win! We'll be back next year!



DGS Student Challenge Bowl winners David Herman and James Carmichael compete at World Finals during IMAGE 2023

DGS Philanthropy Opportunity

EVENT DETAILS

September 6, 4:00-8:00 PM

September 7, 2:00-7:00 PM

The Golden Hotel
800 11th St

EVENT SPONSORS



Call for Donations

Mines Dress for Success 2023

Truly BoHotique is hosting our annual Mines Dress for Success Event in September! Each year we outfit female students at the Colorado School of Mines for their career day and job interviews. We are now accepting donations of gently worn and clean women's business attire including pants, skirts, dresses, suits and suit jackets, blouses and sweaters.

Donations can be dropped off at Truly during regular business hours:

Monday - Saturday 10-6 | Sunday 11-6



Address: 801-B 14th Street in Historic Downtown Golden

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New to Market 2D Seismic Available in Wyoming, Utah, and Colorado!

DGS Executive Committee Nominations!

If you are interested in participating in the DGS Executive Committee or you would like to nominate someone—the DGS Nominating Committee will accept Nominations through September 15! office@denvergeo.org



Vice President, 4-year term (2+2)

Primary Responsibility: monthly luncheon talks and technical workshops, followed by 2-year term as DGS President

Secretary, 1-year term

Primary Responsibility: monthly DGS ExCom minutes

Treasurer, 1-year term

Primary Responsibility: monthly financial report, invoicing

Editor, 1-year term

Primary Responsibility: quarterly publications of The Record, content

2024 Executive Committee Nominations

Andrew Keene – Candidate for Vice President



Professional Experience:
SM Energy (2019-present)

Education:
MS Geoscience, University of Montana, 2019
BA Geology, Carleton College, 2017

Professional Affiliations:
DGS, SEG, AAPG, RMAG

Publications (SEG/AAPG IMAGE):

Keene et al. 2023 (in prep.)

Induced Seismicity in Howard County I: The Buried Grenville Front in the Midland Basin and its Role in Localizing Induced Seismicity, Texas

Keene et al. 2021

Improving drilling efficiencies by utilizing 3D seismic inversion data and advanced wellbore planning, Permian Basin, Texas

Denver has been my home for almost five years, and the connections and opportunities the DGS has provided me in the industry and around town has proven invaluable as a relative newcomer to oil and gas. I have enjoyed planning events such as holiday parties and Rockies games for the DGS, as well as helping the executive committee plan the future of the DGS for the members. As Vice President, I would help curate luncheons and expand our events to include more folks interested in oil and gas and geophysics, and I am always looking to make the member experience better.

Lisa D'Ambrosia - Candidate for Treasurer



Professional Experience:
23 years of experience dating back to 1990's with Texaco, Lockhart Geophysical & Aspect Energy.

Education:
BS Geophysical Engineering, Colorado School of Mines, 1993

Professional Affiliations:
DGS, SEG, APPG

I've been involved with the DGS for many years and enjoy connecting with members and all the learning opportunities it provides. I've enjoyed being on the Student Challenge Bowl Committee for several years now. I hope to be a good steward of DGS funds and carry on the tradition of providing a learning community in Denver.

2024 Executive Committee Nominations

Jess Vahling – Candidate for Secretary



Professional Experience:

Occidental Petroleum (2019-present)

Anadarko Petroleum (2014-2019)

Hess Corporation (2009-2014)

Education:

BS Geology, Kansas State University, 2006

MS Geology, Wichita State University, 2009

Professional MS Program Geophysics, University of Houston, 2011

Professional Affiliations:

DGS, SEG, APPG, RMAG

Since I moved to Denver 9 years ago, the DGS has provided me many opportunities for learning and networking. I am very much looking forward to giving back to this valuable community through a position as Secretary on the executive committee. I hope to be able to help continue to build a strong and successful society.

Melinda Gale - Candidate for Editor



Professional Experience:

Colorado School of Mines, Program Manager, Reservoir Characterization Project (2021-Present)

Tom Brown, Inc., Senior Exploration Geophysicist (1996-2004)

ARCO/ Vastar Resources (1988-1996)

Education:

BS Geophysical Engineering (1988), Colorado School of Mines

Professional Affiliations:

SEG, AAPG, DGS

As candidate for Editor, I hope to continue building a strong communications platform for the DGS community. During this past year, my goal as Editor of The Record was to increase overall content to encourage strong member engagement. With the addition of the 3DSS Special Edition and other new topics in our quarterly publications we have started this process and I hope to continue during 2024.

Additionally, I would like to be more actively involved in the geophysical community in the Denver area, and this position allows me valuable opportunities to contribute consistently to DGS' programs. My position within the Department of Geophysics at Colorado School of Mines provides a unique opportunity to encourage more active engagement from student organizations and young professionals in DGS programs and activities. Thank you for your consideration.

Monthly Luncheon Talks

Thank you to everyone who has given a talk or is signed up to give one!

August Luncheon Talk

Biases and assumptions, and the impact on your geomechanical model

Joel Loeffler

Abstract:

Our biases influence how we select, condition, and calibrate data. Models are built on inherent assumptions; about data quality, sampling, and our own preconceived notions. Knowledge of a dataset's limitations can help address issues encountered throughout the geomechanics workflow. Joel will be discussing how to identify common biases in your data and geomechanical case studies in which biases were identified and corrected.

Joel has ten years experience working as a geologist/geoscientist, eight of which are as a technical specialist in pore pressure and fracture gradient analysis. While his primary role is the technical execution and delivery of rigorous PPFG studies, he has also undertaken numerous rock physics, inversion, and geomechanics projects. His project experience is diverse, and includes a multitude of basins and play types, including onshore US, East Coast Canada, Western Canada, Gulf of Mexico, North Slope Alaska, and onshore Colombia. Joel is also an instructor, conducting training courses covering pore pressure theory, as well as RokDoc software courses for pore pressure, geomechanics, and rock physics.



DGS Golf Tournament

August 17, 2023

Legacy Ridge Golf Course
Westminster, Colorado





DGS Golf Tournament

August 17, 2023

Legacy Ridge Golf Course
Westminster, Colorado





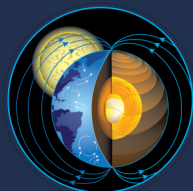


The Record Advertising

Select Ad Type and Size from this table:

Ad Type and Size:	1 Month	Yearly (minimum 4 issues)
Full Page 7.25" wide by 9.75" tall	\$150	\$500
Half Page 7.25" wide by 4.75" tall	\$100	\$375
Quarter Page Vertical 3.5" wide by 4.75" tall	\$50	\$200

All advertisements must be received in jpeg format.



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Upcoming GP@100 Alumni Events

September 8—Welcome Back BBQ and movie screening, Golden, CO

October 18—Distinguished Alumni Heiland Lecture Series, Dr. Nori Nakata, Golden, CO

November— GP Gives CCUS Workshop (free to alumni) November 10, Golden, CO

December—AGU Mines Geophysics Alumni Reception, San Francisco, CA

RSVP at geophysics@mines.edu

Keep it Professional

Do you have news you would like to share with the community? A job change or a new promotion? Anything that's industry/job related, we would love to share your news. We aren't necessarily looking to share that Bob is now a grandfather but we would love to celebrate your accomplishments. Send 2-3 sentences with your name and what your news is and we'll add it to the next newsletter. For consistency, DGS reserves the right to edit and limit what gets published. So, if you really want your news shared, remember to "Keep it Professional."

DGS Meeting Notes – June 2023

Denver Geophysical Society – June 20, 2023 – Excom Meeting

Attendees: Jeff Zawila, Andrew Keene, Joel Scott, Jess Vahling, Mark Davidson

May minutes approved.

3Dss: Need to nail down contract and invoice.

Treasurer's Report:

FirstBank: \$168,501.74

May Revenue: \$2,412.00

Net Revenue: -\$3,788.15

Jess needs sponsor details for tax. We need to begin making distinctions in sponsorships for book-keeping purposes, or if we tried to keep everything on website.

Mark to cancel Survey Monkey subscription.

Golf: August 17th - 10 teams signed up as of now.

\$3100 in sponsorships so far

Matt Romero to reach out to past sponsors

September 26th Rockies game. To advertise at golf tournament and September luncheon.

Andrew needs to email Keith about contract, again.

Nominations:

Still need treasurer candidates

Next meeting July 17th

Student Challenge Bowl: Andrew to follow up with SEG for winners. They need info on finals, when, where, how to sign up. (David Herman and James Carmichael) – email Jenny Cole jcole@seg.org.

Excom thinks we get rid of member-late category for luncheons.

DGS Meeting Notes – July 2023

Denver Geophysical Society – July 17, 2023 – Excom Meeting

Attendees: Jeff Zawila, Jess Vahling, Joel Scott, Mark Davidson, Andrew Keene, Melinda Gale

June Minutes: Approved.

Treasurer's Report:

Current Balance: \$159,623.23 – 3Dss fully paid for and taken care of.

June net revenue: ~\$2400

2023 3Dss Net Revenue: \$60,308.87

Between Student Challenge Bowl and 3Dss – net gain of \$54,766.24.

The Record: Nothing to report. One correction needed for dates of SEG. Planning to send another Record in August. We'll wait until after tournament for golf pictures, and advertising for baseball game in September (September 26th).

We need to publish candidates by a specific time and date in the year, to ensure we follow bylaws etc. In past years we've had special issues for the election.

Golf Tournament: About 20 teams currently signed up – decision made today on if course is ready to go due to irrigation issues. Otherwise, we'd switch venues. Matt Romero to alert Jeff 7/17 for potential change. Deadline to sign up is first week of August.

Luncheons: Four potential talks lined up – some vendors and some operators, dependent on availability and business happenings.

3Dss and Holiday Party: Keith has been slammed with mayoral inauguration, and plans to address our needs and concerns in both contracts by the end of the week (or worst case, before August). We can then get ball rolling on this again.

Elections: We must publish candidates in August newsletter. By September 15th, we need all nominations in writing submitted by membership. Vote occurs at October 1st and runs for two weeks – should have a decision made by October 15th and communicated by November 15th.

Baseball Game: September 26th – will be announced in August newsletter.

Next Excom meeting August 3rd – Andrew unable to attend.

Student Challenge Bowl winners: SEG/AAPG IMAGE coordinators aware that the Rocky Mountain winners have not been alerted. Occidental has one winner as an intern this summer – Jess to follow up and ensure they are properly helped and supported.

Potential 3Dss Venue Move: Helium conference in Westminster – great venue. Occidental has a space that could be ok, but not ideal. Jeff and Andrew to look into Hotel Bjorn (SM Energy Tech Conference venue) and costs. Joel to send Sarah an email to determine what work has gone on thus far. Dates are fairly set – avoiding spring breaks, but flexibility within the two weeks.

Meeting adjourned.

DGS Meeting Notes – August 2023

Denver Geophysical Society - August 15, 2023—Excom Meeting

Attendees: Jess Vahling, Jeff Zawila, Andrew Keene, Melinda Gale, Joel Scott, Angie Southcott, Travis Pitcher

July Minutes approved.

Treasurer's Report:

July 2023: -\$6,669.30

FirstBank Balance: \$164,599.54

Golf Tournament: 20 teams, 80 participants total. Legacy Ridge in Westminster.

Baseball Game: September 26th afternoon Rockies game. To email out!

The Record: To be published by end of August.

3Dss: Dates are set for 3Dss in 2024.

Holiday Party: December of 2023 – contract in place, need modifications.

Nominations: List made, email blast for Google Forms ballots.

Luncheons: Travis to send information about upcoming speaker for next few luncheons. EOG an option. Also a few geothermal talks that might work.

Shared Drive: Upload contracts and minutes and reports to drive.

About DGS

The Denver Geophysical Society (DGS), a chapter of the Society of Exploration Geophysicists (SEG), was chartered in 1950 and has been an active part of the Rocky Mountain region geophysical community for 72 years. Starting in 1995, DGS added the 3D Seismic Symposium to its annual programming.

Mission Statement: The Denver Geophysical Society is a nonprofit organization operated by its members to promote the science of geophysics, especially as it applies to exploration, and to promote fellowship and cooperation among those persons interested in geophysical problems.

By Laws – The Denver Geophysical Society 2010 Executive Committee updated the By Laws. To review the updated By Laws, [click here](#) or visit the By Laws subtab.

Committees – The Denver Geophysical Society is mainly comprised of volunteers that help plan the continuing education courses, monthly luncheons, golf tournament, networking events, student outreach programs and so much more! To learn more about the committees and available volunteer opportunities, email office@denvergeo.org.

Officers – The officers are elected volunteers that are an integral part of the governing and planning of the Denver Geophysical Society. Officer terms are dependent upon the position held and range from 1 year to 4 years. If you are interested in running for an officer position, please email office@denvergeo.org.

Privacy Policy – At The Denver Geophysical Society (DGS), a chapter of the Society of Exploration Geophysicists (SEG), we are committed to protecting your privacy. We use the information we collect about you to provide member services, process orders, provide on-going support and supply membership announcements.

