




The Colorado Professional Geologist




American Institute of Professional Geologists—Colorado Section
Colorado Section email: Colorado-aipg@outlook.com

Geology News, Events, and More



Student Photo Contest!

- Submit your photo along with a brief description (2 to 3 paragraphs) of the location and geologic setting to the Colorado Executive Committee. Entries will be showcased in the Colorado Section newsletter and the winner will be featured on the front page!
- Photos should be submitted in .jpg or .tiff format and accompanying text in MS Word.
- Send your entries to the Colorado Section: colorado-aipg@outlook.com
- Entries must be received by July 31, 2021 to be considered.



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2021 SECTION OFFICERS

The Board usually meets the second Tuesday of each month at 7:00 AM; all members are invited to attend. Please contact a Board Member to confirm time and location.

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Call for Articles

The Colorado Section of AIPG newsletter welcomes submission of technical or informational articles for publication. Articles may be submitted via e-mail to the editor at:

*summitdatasvcs@msn.com
(Microsoft Word format is preferred.)*

*James Russell
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*Contact James at 303-278-4456
for additional information.*

Change of email:

Change of email notices and other contact information changes for the CPG should be sent directly to:

AIPG National Headquarters
1333 West 120th Ave, Suite 211
Westminster, CO 80234
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(The National Office maintains the address list for all.)

Letters, articles, announcements, ads, etc. must be received by the Editor by the **end of the fourth full week of the month preceding publication**. Letters, articles, ads, announcements, etc. accepted on a space available basis. Submission of articles, etc. via e-mail is the preferred method. Copy can be accepted in most PC formats, but DOC or DOCX are preferred. Call or e-mail James Russell for details on submission of copy or advertising at 303-815-3901, summitdatasvcs@msn.com.

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The opinions expressed are those of the authors and not the Colorado Section officers unless clearly stated otherwise.

President's Message

Welcome to summer, fellow rock lovers! Your AIPG Colorado Section Executive Committee is hard at work planning in person (gasp!) events for the summer and fall. Please keep an eye out for the summer field trip (location TBD), and annual dinner (postponed from this past January to September) and student networking event. We will also be sending out a request for mentors to volunteer for the student mentoring portion of the annual dinner; we greatly appreciate the volunteers, and the students benefit from your time! The theme for this year's annual dinner is "Why Do I Want to Be a Geologist?" For me, the answer to this question (which serves as the foundation of the scholarship essay for AIPG) has changed over the few years I have experienced since graduating. And I look forward to celebrating everyone's take on this question in September. Please stay tuned for a "Save the Date" for the annual event.

On the legislative front, this year has been exceptionally quiet. It's been a strange couple of years, dealing with COVID and a constantly at-battle regulatory environment. We have been grateful to our new lobbyist, Kathleen Curry, for keeping us up to date on the handful of geo-related bills working through the legislative process.

The CO Section is featuring the first two "ECP Spotlights" for the handful of Early Career Professionals we have here in our state. AIPG, in general, does not have a high proportion of ECPs, and our hopes are that by featuring the "up and coming" geos, that you will all reach out and do what you can to help support these amazing individuals. Please follow the [CO Section LinkedIn page](#), if you haven't already, to connect with our Colorado ECPs.

We're also planning a summer field trip, so keep an eye out for details to be announced soon. I hope you all have a wonderful summer, full of outcrop viewings, safe travels, and good times. Hope to see you in person soon!

Jessica

Editor's Remarks

James Russell

Spring has sprung and now summer is at our doorsteps. It is time many of us are heading to the hills for either fieldwork, fun, or both. In a couple of months COVID will seem like a nightmare that is finally over. While we have been living through a sequester, there has been activity in the geology field. There are field trips being planned, webinars being viewed, fieldwork being completed. There is even talk about a potential AIPG Colorado section field trip this the summer.

This issue Stephanie Ashley describes AIPG participation in the Colorado Science and Engineering Fair (CSEF). This year the science fair went virtual, and all went well. Thanks to Doug Peterson for his continued efforts providing detailed information about geological events in Colorado.

If you have received the email announcement to vote for 2022 national officers, please do so before June 30!

Send in Your Articles!



Colorado Science and Engineering Fair (CSEF)

Stephanie Ashley

In April, AIPG again participated in the Colorado Science and Engineering Fair (CSEF). AIPG presents special awards to outstanding middle and high school students completing projects related to geology. The fair was cancelled in 2020 due to the covid pandemic and this year looked a little different than normal. Instead of meeting at Colorado State University in Ft. Collins, the fair was held remotely and students met with judges through a virtual platform. This year's judges were Stephanie Ashley, Joe Brinton, and Celine Gill. The competition was stiff! In past years, judges were able to wander around the conference hall and peruse the projects before selecting students to interview. This year, judges were able to view the project displays online before scheduling virtual interviews with individual students over the course of two days. Awards are based on the projects' value to science and society, complexity, relation to geology, and the ability of students to present their work and answer questions.

After much deliberation, AIPG's top award for the high school division was awarded to Maria Alder and Riley Carpenter for their project titled "Water Desalination: Crystallization of CaCO_3 out of Saline Solution onto Plastic Polymers." These two students are working to improve the process of water desalination by studying new materials to use in filtration systems that will maximize crystallization of salts while minimizing scaling. Alder and Carpenter demonstrated an impressive knack for explaining intricate topics and answering difficult questions. Their clear communication imparted their vision of why this project is so important. They tested a variety of plastic polymers with different surface textures and performed a complex statistical analysis to determine which showed the most promise for desalination systems. They have plans to expand upon their research and hopefully develop more cost-effective, efficient water purification systems that will benefit people all over the world.

The runner up in the high school division was Alden Kruse with his project titled "Something In The Water: Creating an Origami Microfluidic Device for Developing Communities." Kruse's passion for his project was contagious. He is trying to create a low-cost, efficient way to test for arsenic in the water, particularly for developing countries. He used folded papers imprinted with chemicals to test for arsenic. The folding of the paper creates microfluidic channels as liquids wick through by capillary action. He evaluated a number of shapes for the paper device as well as different waxes, papers, and fabrication processes to imprint the chemicals into the paper. Kruse also developed a method of using a cell phone camera to map RGB values onto an XYZ graph to remove some of the subjectivity in reading results. Kruse is working on creating a similar device to test for other chemicals in the water as well. He hopes to work with a manufacturer to produce these low-cost, sensitive, and accurate water testing devices.

In the middle school division, Keane Hammond took the top spot with his project "The Drowning Machine: The Danger of Low Head Dams." Low head dams can sometimes draw objects toward them and pull them under the water. Hammond built a model dam to help estimate the ratio between head height and flow rate that can create dangerous conditions around low head dams so that modifications can be made to improve safety. Whitewater parks might also be able to use this information

Colorado Science and Engineering Fair (CSEF) (Continued)

to detect when whitewater features might present danger. Hammond's model dam took a lot of ingenuity and this was a unique project. He is also a very polished presenter who wasn't stymied by difficult questions.

Eva Norton and her project, "Sediment Movement" took the runner-up position for the middle school division. Norton also put her construction skills to use with her project. She wanted to evaluate how the slope of a river affects the amount of erosion in the streambed. Norton constructed a model riverbed and filled it with sand. Then she tested the amount of erosion that occurred at differing slopes.

She based the slope values that she tested on the slope of the Colorado River at various points. Norton was interested in this project because as a whitewater rafter, she wants to understand how we can maintain and improve the health of our rivers. She discussed other aspects of river morphology that need to be tested going forward.

All of these students were exceptional. The students who didn't win the special award were outstanding as well. Seeing what these young people are capable of is inspiring. Our future will be in good hands with them.



Early Career Professional Spotlight: Kyle Poisson



Education:

- Bachelor of Science Degree in Geology from Fort Lewis College in Durango, Colorado

Professional Experience:

- 4 years experience with CTL Thompson in Fort Collins, Colorado practicing geotechnical engineering and geology.

Involvement with AIPG and other professional organizations:

- ECP with AIPG
- CPOW member
- CAGE member

Being a geologist is an enjoyable career full of outdoor problem solving. Being able to work outside while learning about the earth and relating it to projects that benefit the people around us makes for a very gratifying life. Geology requires a lot of visualization to be able to best understand what is going on beneath our feet. Who wouldn't want to workout their mind and body, all while helping people live more satisfying lives? Geology is a crucial expertise that I am proud to be a part of.

The American Institute of Professional Geologists - Colorado Section is proud to have Kyle as an Early Career Professional member!



Early Career Professional Spotlight: Dani McDowell



Education:

- BS in Applied Geology from Metro State University of Denver

Professional Experience:

- Design Engineer I at CCI Systems – Fiber Optics Intaker

Involvement with AIPG and other professional organizations: In undergrad at MSU Denver, I was involved in the student chapters for AIPG and AAPG for about two years before being appointed as Vice President of AIPG and President of AAPG my senior year.

It took me until I was 22 to realize what I had a passion for. School was just something that felt like a chore. After taking my first introduction to geology course, I fell in love with understanding how the world works and why it works that way. I knew right then and there that Geology was what I wanted to do with my life. I wasn't immediately good at geology; in fact, I failed that first class. It was the only class I've ever been excited about taking again!

I want to be a geologist because I have a true passion for being outside and understanding how everything is intertwined. It's difficult to narrow down exactly which field I'd like to end up in, because I loved every class so much. There is so much importance in knowing the history of our earth to understand the future of our earth and I want to be a part of that.

Geology has taken me to so many little corners of the world, from Colorado's own Great Sand Dunes, to the Grand Canyon, to the western coast of Italy and to the Swiss Alps. Every experience has brought new challenges but also incredible learning opportunities. I intend to continue learning, traveling and being submerged in the geology world because I truly love it so much. I look forward to the geo-tastic future!

The American Institute of Professional Geologists - Colorado Section is proud to have Dani as an Early Career Professional member!



AIPG Purposes

The purposes of the Institute shall include:

- advance the geological sciences and the profession of geology;
- establish qualifications for professional geologists;
- certify the qualifications of specific individual Member geologists to the public;
- promote high standards of ethical conduct among its Members and Adjuncts, and within the profession of geology; and represent, and advocate for, the geological profession before government and the general public.

What AIPG does . . .

- Professional Certification - Certifies geologists based on their Competence, Integrity, and Ethics.
- Categories of Membership - Certified Professional Geologist, Professional, Young Professional, Associate, and Student.

Ombudsman - Intervenes with regulatory boards and agencies on behalf of individual geologists, at the geologist's request. Information also is disseminated in cooperation with the Association of State Boards of Geologists.

Geo Events and Other Useful Links

RMAG On the Rocks Field Trips

In-person Trips Now Open for Registration

1) Pennsylvanian Belden Formation Fossil Collecting Trip July 10

Join us Saturday, July 10 for a day of geologic splendor and fossil collecting fun for the entire family in the Pennsylvanian Belden formation in central Colorado, not far from Eagle/Vail. Our collecting area will be in the scenic Sweetwater Creek valley north of Dotsero, about 150 miles/2.5 hrs. west of Denver. The Belden is a sequence of dark shales and thin limestones noteworthy not only for fossils but as petroleum source rock deposited in the Eagle Basin adjacent to the ancestral Rockies. The trip will begin at 10 AM at a rally point outside of Dotsero (to be announced) and conclude no later than 3 PM.

To register or get more info, go to <https://www.rmag.org/index.php?src=events&srctype=detail&refno=167&category=Field%20Trips>

2) Paint Mines Interpretive Park July 16

Unusual formations of beautiful "painted" rocks near Colorado Springs.

To register or get more info, go to <https://www.rmag.org/index.php?src=events&srctype=detail&refno=170&category=Field%20Trips>

Geo Events and Other Useful Links (Continued)

3) Dinosaur Ridge/Morrison Natural History Museum July 24

RMAG invites you and your family to join us on July 24th as we discover the natural wonders at Dinosaur Ridge and the Morrison Natural History Museum, both located a short distance west of Denver. Guided by expert geologist tour guides, we will see the world's first Stegosaurus discovery, an amazing array of dinosaur tracks, and learn about the life and environment that existed on the Front Range over the last 150 million years.

To register or get more info, go to <https://www.rmag.org/index.php?src=events&srctype=detail&refno=169&category=Field%20Trips>

4) Cripple Creek/Victor Mine Tour August 7

Rescheduled from last year. Enjoy a journey into Colorado's gold mining past and present with a trip to the Cripple Creek-Victor area. Participants will tour one of Colorado's most historic and still active gold mines and explore and learn about the rich history of this region. Participants are most than welcome to spend a night in this historically rich Colorado community.

To register or get more info, go to <https://www.rmag.org/index.php?src=events&srctype=detail&refno=171&category=Field%20Trips>



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