

# GEOLOGICAL SOCIETY OF NEVADA NEWSLETTER

Geological Society of Nevada, 2175 Raggio Parkway, Room 107, Reno, NV 89512  
(775) 323-3500 - Hours Monday -- Friday, 9 a.m. to 4 p.m.  
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[gsn@gsnv.org](mailto:gsn@gsnv.org)

**FEB. 4, 2021  
THURSDAY  
Via Zoom**

## **GSN SO. NEVADA CHAPTER MEETING**

The GSN Southern Nevada Chapter Meeting will be held on Thur., Feb, 4th at 6:00 pm. **Speaker: Dr. Kevin Konrad, new faculty at UNLV.** Title: "Mapping long-lived Pacific Hotspots through isotopic fingerprinting and <sup>40</sup>Ar/<sup>39</sup>Ar geochronology". For questions, please contact President Josh Bonde at: [joshua.bonde@nvscicenter.org](mailto:joshua.bonde@nvscicenter.org). Abstract on pg 6.

**FEB. 10, 2021  
WED. Tentative**

## **GSN WINNEMUCCA CHAPTER MEETING**

The Winnemucca Chapter Meeting is working on lining up a speaker for February. For questions, please contact President Chad Peters at: [cpeters@ridgeline minerals.com](mailto:cpeters@ridgeline minerals.com)

**FEB. 18, 2021  
THURSDAY  
Via Zoom**

## **GSN ELKO CHAPTER ZOOM MEETING**

The GSN Elko Chapter will be hosting their meeting via Zoom on Thur., February 18th at 7 p.m. Speaker: Mr. Andrew Steiner will be giving a virtual talk on his PhD research at the University of British Columbia. Title: "Episodic fluid flow and roll-fronts: insights on the formation of Carlin-type Au-deposits from ore-stage carbonate veins in the Nadaleen trend, Yukon". Please contact Elko President Justin Milliard: [jus-tin.b.milliard@gmail.com](mailto:jus-tin.b.milliard@gmail.com) for more information. Abstract and Zoom meeting login credentials can be found on page 7.

**FEB. 19, 2021  
FRIDAY  
Via Zoom**

## **GSN REGULAR MEMBERSHIP ZOOM MEETING**

The GSN's February meeting will be held via Zoom on Friday, February 19th beginning at 6:15 pm for chatting. Talk begins at 6:30 p.m. **Guest Speaker: Dr. Zhaoshan Chang, CSM Professor, 2020 SEG International Exchange Lecturer.** Title: "Skarns: Zoning Patterns and Controlling Factors". Please contact Laura Ruud at the GSN office if you have any questions: [gsn@gsnv.org](mailto:gsn@gsnv.org). See page 3 for abstract and Zoom meeting login information!

## **GSN BOARD OF DIRECTORS**

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## **GSN SYMPOSIUM 2022**

**RESCHEDULED**

***Vision For Discovery***

**April 29 to May 8, 2022**

**Nugget Casino Resort, Reno-Sparks, Nevada**

**\*\*\*INFORMATION\*\*\***

**[www.gsn Symposium.org/](http://www.gsn Symposium.org/)**

**Office Manager phone: 775-433-8758**

*GSN has rescheduled the in-person meeting to Spring 2022 to assure the health and safety of our members and attendees. We appreciate your continued interest and support in the transition to the 2022 dates. There will likely be changes to the Technical Program, Field Trips and Short Courses. We have received support from those involved to accommodate changes.*

**\*\*SCHEDULE\*\***

***Technical Sessions, MAY 2-5, 2022***

***Field Trips***

***Short Courses***

***Trade Show***

***Core Shack***

***Sponsorships Available***

**FROM THE PRESIDENT**  
**Mary Stollenwerk, GSN President 2020-2021**  
**FEBRUARY 2021**



The GSN Monthly Membership Meetings continued into 2021 with a talk by Dr. Carson Richardson. This month we are fortunate enough to have **Dr. Zhaoshan Chang, the Charles F. Fogarty Endowed Chair and Professor in Economic Geology from the Colorado School of Mines** talk about skarns, as well as a return to the Chapter meetings.

- See update on Symposium on page 6.
- For Chapter activities, see page 7 for Elko and page 6 for Winnemucca, and So. Nevada.
- Stay tuned for an announcement of a Spring Field Trip in the coming months. Prepare to camp again!

The biggest announcement will be regarding the Symposium, now put off to 2022. The Symposium Committee has been navigating the course to decide how to proceed, considering many options along the way. With the uncertainty of the current public health and health policy this past year, it has been difficult, with each 6 months giving some hope, but no certainty. I thank Eric Struhsacker for his patience and calm in guiding this effort – I am sure it is more than he thought that he signed up for. Ever the optimist, I do believe that Spring 2022, will be a clear path forward to an in-person meeting worth waiting for.

Everyone must be familiar with the Dilbert cartoon that has the engineer declaring “Geology? That’s just liquor and guessing!”. Guessing could be considered some combination of uncertainty, patience, and optimism. The latter two need to keep pace with the first.



Laura Ruud's hometown of Golden, CO, December 2014

**GSN Virtual Talk: FRIDAY, FEBRUARY 19, 2021**

**Zoom Opens @ 6:15 PM, Talk begins @ 6:30 PM (Pacific)**

**(Zoom meeting details can be found below.)**

**Guest Speaker: Dr. Zhaoshan Chang**

**Charles F. Fogarty Endowed Chair and Professor in Economic Geology  
Department of Geology and Geological Engineering  
Colorado School of Mines**

**2020 SEG International Exchange Lecturer**

**Title: “Skarns: Zoning Patterns and Controlling Factors”**

**ABSTRACT:**

Skarns are one of the most common deposit types with significant economic values, and they are typically part of magmatic hydrothermal systems. Skarns may extend towards the causative intrusions to porphyry or greisen deposits, and towards distal locations to carbonate replacement deposits and farther away to Carlin- or Carlin-like deposits. For the exploration of skarn and related deposits, zoning is an effective tool. In addition, in skarn-porphyry districts there are typically many intrusions. To identify the causative intrusion, zoning is an important, sometimes the only tool. In this presentation, zoning patterns in both alteration and mineralization will be summarized and explained.

**Date/Time: February 19, 2021 at 6:15 PM Pacific Time (US and Canada)**

**Join Zoom Meeting by clicking on the link:**

**<https://us02web.zoom.us/j/83073985471?pwd=WGIRSG5UMm5DNDkrcUs2L25QM2NxQT09>**

**Meeting ID: 830 7398 5471**

**Passcode: 415814**

One tap mobile: +16699006833,,83073985471#,,, \*415814# US (San Jose)

Dial by your location: +1 669 900 6833 US (San Jose); +1 253 215 8782 US (Tacoma)

**Meeting ID: 830 7398 5471**

**Passcode: 415814**

Find your local number: **<https://us02web.zoom.us/j/kcYklnNnVo>**

# **“Face of GSN”**

## **ANNIE HUHTA**

Director, Mackay School of Earth Sciences & Engineering at UNR

February 2021

I am very proud to say I have been a ‘western’ girl my whole life being born in Colorado Springs and raised on the ranching plains of eastern Colorado (GO BRONCOS!). I made my first big move to north Idaho-the Pacific Northwest-in high school at the age of 15 (not an easy move for a high plains girl used to sun 350 days a year!).

After graduating from Potlatch High School I worked a summer at the local hardware store (Plummer and Wagner) where I learned more than I ever wanted to know about plumbing and mixing paint. Let’s just say it was strong encouragement to continue my education, and in the fall I went on to college and eventually graduate school earning two degrees in geology from the University of Idaho, a B.S. in 2003 and an M.S. in 2005.

As a child I didn’t give much thought as to what I wanted to be when I grew up, in hindsight I can see it was the experiences of my early years which helped to develop my love of the outdoors. I consider myself blessed to have ‘grown up rural.’

As a young girl living on the eastern plains of Colorado I spent my fair share of time raising chickens, riding horses, and helping my dad and sister work both cattle and dairy cows on the farms of family friends. Growing up within an hour’s drive of the foothills to the Rocky Mountains I reveled in the red dirt of the Garden of the Gods, the beautiful mountainous terrain of Seven Falls, summers spent at Girl Scout camp in Woodland Park, and day-trips to the famous mining towns of Cripple Creek and Victor. All the while, unbeknownst to me, the foundation for a love of geology was slowly taking shape.

The theme of the outdoors and hanging around old mining towns continued as I moved to north Idaho-spending many weekends on horseback and 4-wheelers exploring areas of the woods known locally as ‘The Dredge,’ ‘The Hoodoo,’ ‘Up Strychnine,’ or even ‘NUNYA,’ which of course was short for none of your business! Many family gifts would come from the beautiful metamorphic minerals, star garnets and fossil leaves collected during those outings...and still, I hadn’t realized my love for geology could transfer to an incredibly successful career!

Graduating from high school, being the second in my immediate family to go to college and the first and only to graduate, I stumbled upon and was accepted to the University of Idaho with hopes of being a marine biologist, spending my career researching penguins in the wild lands of the Antarctic. Quickly reality set in and I realized I wasn’t really that interested in leaving the western U.S. so I changed my major to education-I knew I could easily share my love of the outdoors, animals, and science with young, eager minds. (continued on page 5)





## Huhta, Face of GSN (continued from page 4)

The plan to become a teacher stuck a bit longer than the first, I made it one whole semester before taking Geology 101—and that was it, I was hooked! I went back to my advisor-for the third time in one year-and requested to change my major once again. My initial attempt at a third change was denied, and I was encouraged to take another class (or two) in geology before asking to change again. I took the second class and loved it as much, if not more than, the first so I made my way back to my advisor's office to request a third change in major and the rest, as they say, is history!

In 2005 I made the move to Nevada and for nearly fourteen years I worked in mining within the Battle Mountain District. I started out in ore control and over time worked my way up to Chief Geologist for the district. During all of my years working in mining my absolute favorite experience was planning and executing drill programs. Drilling programs always kicked off in January and welcoming rigs on site just after the winter shutdown always felt like Christmas morning all over again! It was wonderfully exciting to see the rigs pull up to the drill site and to wonder what the next drilling season would reveal. Looking back now it was the opportunity to work with the drill crews that I enjoyed so much-it was here that I learned people who feel appreciated will go far above and beyond what is expected. I'll cherish both the lessons learned and memories made for the rest of my life.

When I graduated from college my initial plan was to work in industry for 10 years and then return to school to get my PhD. Well, by 2016, nearly eleven years into my career, I was itching to further my education and since returning for a PhD wasn't a good option for my family I chose to earn an MBA from the University of Nevada, Reno while working full time in mining. I wasn't sure what my future would be, but I knew having an MBA would significantly broaden my horizons. And it did, as I stepped into the Chief Geologist position about 6 months before graduating with my MBA.

I graduated from UNR's MBA program in August of 2018 and in October I saw an ad for the Director's position for the Mackay School of Earth Sciences and Engineering. At this point I had worked with graduates from the Mackay School for nearly a decade and I was continually impressed by both the extent of their knowledge and the professional behavior they exemplified. It was amazing to see nearly a decade and a half of hard work and continued education provide the exact credentials necessary to apply for the Director's position.

I made my transition from mining to academia in June of 2019 and have enjoyed every minute of it! It's felt a bit as if I've come back to my roots-once again certain that my passion for the outdoors and science blended with my unique experiences and education would help to encourage and shape young and eager minds for the next generation to work in mining.

I remember years ago, when I was still working towards my undergraduate degree, paying for college by working as a certified nursing assistant during the weeknights and working weekends cleaning a lab facility that I was once asked, "why are you getting a degree in geology, you'll never get a job with that degree?!" Little did I know then the wonderful experiences I would have and even more, the amazing people I would meet while working in mining.

It has truly been a pleasure and an honor to study and work with some of the best geologists in the world, to work for one of the best mining companies, and to be working alongside some of the most brilliant staff, faculty and students at the best mining school in the world, the Mackay School!

I am humbled and honored and only hope I can give back to this profession and people as much as I have been given. It certainly has been a wonderful career so far, here's looking forward to the next fifteen years and to figuring out exactly what I want to be when I grow up!



## GSN SO. NEVADA CHAPTER

The GSN Southern Nevada Chapter will be hosting a Zoom meeting on Thursday, February 4, 2021! Zoom Login will be emailed out to all members prior to the meeting.

**Speaker: Dr. Kevin Konrad**  
new Asst. Professor, UNLV

**Title: “Mapping long-lived Pacific Hotspots through isotopic fingerprinting and  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronology”**

### **Abstract**

The Pacific basin hosts some of the most dramatic volcanic seafloor features on Earth. This includes the prominent Hawaiian-Emperor Seamount Chain, the massive Ontong-Java Plateau, and numerous seamounts in the French Polynesia-Cook Australs region. My research focuses on how long the mantle hotspots sourcing these volcanic provinces last and how they evolve through time. This talk will focus on the modern day to Cretaceous history of the South Pacific Isotopic and Thermal Anomaly (SOPITA) including Rurutu-Arago, Macdonald, Samoa, and the potentially long-lived Marquesas and Pitcairn hotspots. Mapping the long-lived history of SOPITA mantle plumes is accomplished through coupled geo-chronology, chemistry, and morphology of seamount trails. These age-progressive hotspot tracks can be used to define past plate motions, which can be used to reconstruct past continents and determine the drivers of tectonic processes. Furthermore, hotspot tracks provide vital insights into the composition, history, and dynamics of Earth's deep interior.

### **Bio**

Kevin is a new assistant professor at UNLV and the director of the Nevada Isotope Geochronology Laboratory (NIGL). Kevin is an argon geochronologist whose research focuses on marine geology, mantle geodynamics and intraplate volcanism. His research incorporates a variety of novel  $^{40}\text{Ar}/^{39}\text{Ar}$  methodologies including dating non-traditional phases (e.g. clinopyroxene) and micro sampling of altered basalts.

Thank you,

Josh Bonde, GSN Southern Nevada President  
[joshua.bonde@nvscicenter.org](mailto:joshua.bonde@nvscicenter.org)



## GSN WINNEMUCCA CHAPTER

The GSN Winnemucca Chapter is looking to line up a speaker for their February 2021 Zoom meeting. We will send out details to all the members once they are sorted out.

Thank you,  
Chad Peters  
Winnemucca Chapter President  
[cpeters@ridgeline minerals.com](mailto:cpeters@ridgeline minerals.com)

## GSN Symposium Rescheduled to 2022!

The GSN 2021 Symposium Planning Committee has re-scheduled our event to the week of May 2, 2022. As we have watched the spread of COVID 19 and the evolution of protocols responding to the disease, we have examined options for conducting the conference ranging from onsite to virtual productions. Members of the planning committee, GSN members, and many others have expressed a strong preference for holding the symposium onsite at the Nugget Casino Resort. Those favoring the onsite format have an expectation that the vaccine rollout will have reached through the high priority groups to the youngest of our geoscience community. As of now, it is very unlikely that we will have reached the desired vaccination objectives by May 2021 and even October is quite uncertain. Therefore, we have reserved an available week in 2022 offered to us by the Nugget.

We remain fortunate that the Nugget has worked hard to accommodate our repeated changes of schedule. **The technical program in 2022 will extend from Monday, May 2nd to Thursday, May 5th. Field trips and short courses will precede and follow these dates. Our approach for the exhibit hall will be as before.**

Certainly, the technical programs, field trips, and short courses will change in some ways with a production two years after the original date of the symposium. The Symposium Planning Committee will be working on the revised schedule in the coming months. The subcommittee chairs will be in-touch with session chairs, presenters, field trip leaders, and short course instructors as they work through program revisions and presentation updates.

Please stay tuned for announcements with more details within the coming weeks. Also, check the Symposium website for updates ([gsnsymposium.org](http://gsnsymposium.org)).

Many thanks to all participants and sponsors for your preparations for the GSN 2020 Symposium and help with the transition to the 2021 programs. And now, thanks for your support and interest as we refocus on 2022. We wish you good health and easy access to vaccinations.

Eric M. Struhsacker

GSN 2022 Symposium Planning Committee Co-Chair

## **GSN Elko Chapter—February 2021 Update**

We are excited to announce that Mr. Andrew Steiner will be giving GSN Elko's February 2021 virtual talk on his PhD research at the University of British Columbia.

### **Episodic fluid flow and roll-fronts: insights on the formation of Carlin-type Au-deposits from ore-stage carbonate veins in the Nadaleen trend, Yukon.**

#### **Abstract**

Carlin-type Au-deposits (CTGDs) are economically significant hydrothermal deposits that form when Au-bearing hydrothermal fluids interact with carbonate host-rocks. Decades of research on CTGDs in northern Nevada have constrained some critical processes that helped form CTGDs, such as the sulfidation of carbonate-bound Fe as a Au-deposition mechanism. However, several processes that govern CTGD genesis remain poorly understood, including the source of Au and ore-fluids.

In this talk, I will present recent research results from the CTGDs of the Nadaleen trend, Yukon. These deposits offer an opportunity to study CTGDs away from Nevada to understand what processes are truly ubiquitous to CTGD formation. In the Nadaleen trend, several carbonate veins fluoresce under UV light. These UV-fluorescent (UVF) veins have distinct physical, chemical and isotopic properties that indicate that they formed from ore-stage hydrothermal fluids.

These properties provide insights into the pathways the fluids exploited, the temperature of ore-fluids, the processes by which the fluids dissolved and precipitated carbonate, and the timing of hydrothermal fluid flow. Based on these results, we present a "roll-front" model for CTGD formation in which carbonate is continually being dissolved and mobilized down the flow path. The high-permeability decarbonized zone allows upstream fluids constant access to the hydrothermal front that enables the fluids to dissolve vast quantities of carbonate. Downstream from this dissolution zone, the fluids precipitated carbonates with high Mn and low Sr contents that have C and O isotopic compositions that vary from the wall-rock. We also use U-Pb carbonate geochronology to show that realgar-bearing UVF veins formed in several episodes during the Late Cretaceous to the Oligocene and discuss implications for this timing on genetic models for CTGD formation both in Yukon and Nevada.

**Topic: GSN Elko February Meeting, Andrew Steiner, Univ. of BC**

**Date & Time: Feb 18, 2021 7:00 PM Pacific Time (US and Canada)**

**Join Zoom Meeting by clicking on this link:**

<https://us02web.zoom.us/j/84145177672?pwd=WHBKem8rVTdFakl5MGIhNkxUYkE0dz09>

**Meeting ID: 841 4517 7672**

**Passcode: Steiner**

One tap mobile: +16699006833,,84145177672#,,,,\*4702539# US (San Jose); +12532158782,,84145177672#,,,,\*4702539# US (Tacoma)

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**Passcode: 4702539**

Find your local number: <https://us02web.zoom.us/j/84145177672?pwd=WHBKem8rVTdFakl5MGIhNkxUYkE0dz09>



# ***NEWS FROM THE FOUNDATION***

**By Cami Prenn, GSN Foundation Chair**

February 2021

The purpose of the GSN Foundation is to be the philanthropic arm of GSN and fund programs that will promote the future of geology in Nevada. That's why we're always asking for donations. So, one of the Board's most important tasks is to decide how to spend the funds we raise. The GSN Foundation Board has reviewed our financial status and has set our budget for the remainder of this fiscal year. Our generous members have donated over \$15,000 and our other source of funds was the Christmas silent auction, which netted us \$8,075. With the absence of any K-12 Field Trips this school year, we're able to put money we would have spent on that program to work in other areas.

We will fund the GSN scholarships at both UNR and UNLV, as well as scholarships for UNR Field Camp. In addition, we've designated money for the Elko Graduate Student Thesis program, which is crucial this year since the Elko chapter was unable to raise funds in their usual fashion. The Foundation will also donate to the Brian Morris Scholarship fund, part of that coming from this year's budget and part coming from cash in our operating account. We'd like to see that fund grow so its earnings can support the scholarships given out each year.

In the next month we'll be determining the amounts to be awarded for the GSN DD LaPointe Scholarship and the Great Basin Scholarship. Those programs awarded \$9,000 to four students (GSN LaPointe Scholarship) and \$7,500 to one student (Great Basin Scholarship) early in this fiscal year. Applications will soon be solicited for scholarships to be awarded prior to the Fall 2021 semester.

We have some smart and dedicated Board members and the industry greatly benefits from their time and efforts. Thank you Kel Buchanan, Mario Desilets, Bob Felder, Bill Howald, Pam Klessig, DD LaPointe, JoAnn Newbury, Mike Ressel, and Bob Thomas.

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## **GSN Logoed Masks For Sale Online!**

**\$10 each + \$3 shipping**



**These Stormtech Performance Face Masks have 3-layer protection with anti-bacterial filter built in. Flexible nose bridge, ultra-soft elasticized & adjustable ear loops, machine washable & reusable!**

**Online ordering available now in the GSN Store online:**

**<https://www.gsnv.org/shop/gsn-mask/>**



## *Mining Activity Update*

Mike Brady, DECEMBER 2020

[LMBrady@aol.com](mailto:LMBrady@aol.com)

### NEVADA

Hudbay Minerals Inc. announced that it acquired 3,000 acres of mining claims near its Ann Mason Project from GRG International Corp. for \$3,500,000 cash. (resource = 1,400,000,000 tonnes @ 0.32% Cu, 0.03 gpt Au measured+indicated) *Press Release:* December 17

Montego Resources Inc. announced that it terminated its interest in the Taylor Property of Silver Predator Corp. (resource = 8,069,000 tonnes @ 64.8 gpt Ag measured+indicated) *Press Release:* December 4

Newrange Gold Corp. announced that recent drill results at the Pamlico Project include 80.8-82.3 meters @ 4.29 gpt Au (P20-85); 138.7-140.2 meters @ 4.91 gpt Au (P20-88) and 122.0-204.3 meters @ 0.29 gpt Au (P20-91). *Press Release:* December 1

Equinox Gold Corp. and Premier Gold Mines Ltd. announced that they would merge on a 0.1967 share Equinox/1.0 share Premier exchange basis. They also will spin off the South Arturo, McCoy Cove and Getchell assets into a new company called I-80 Gold Corp. *Press Release:* December 16

Fiore Gold Ltd. announced that reserves at the Pan Mine aggregate 21,320,000 tonnes @ 0.42 gpt Au proven+probable. (was 16,748,000 tonnes @ 0.51 gpt Au proven+probable) *Press Release:* December 8

Ely Gold Royalties Inc. announced that it acquired a 2.0% NSR on 3 patented claims at the Lincoln Hill Property (owned by Coeur Mining Inc.) from private interests for \$200,000 cash and 500,000 shares. *Press Release:* December 22

Navy Resources Corp. announced that it acquired an option to earn a 100% interest in the Weepah Property from Ely Gold Royalties Inc. for \$1,000,000 cash and 500,000 shares over 5 years. (resource = 233,300 tonnes @ 1.43 gpt Au inferred) *Press Release:* December 14

Blackrock Gold Corp. announced that recent drill results at the Tonopah West Project include 495.3-507.3 meters @ 1.51 gpt Au, 146.4 gpt Ag (TW20-027); 522.7-524.3 meters @ 1.35 gpt Au, 153.0 gpt Ag (TW20-030); 275.8-278.9 meters @ 10.51 gpt Au, 1,187.5 gpt Ag (TW20-037) and 481.6-483.1 meters @ 1.96 gpt Au, 164.0 gpt Ag (TW20-040). *Press Release:* December 3

Summa Silver Corp. announced that recent drill results at the Hughes Project include 610.8-611.3 meters @ 790 gpt Ag, 8.07 gpt Au (SUM20-10); 302.8-303.7 meters @ 560 gpt Ag, 5.19 gpt Au (SUM20-17) and 397.4-398.1 meters @ 2,910 gpt Ag, 33.1 gpt Au (SUM20-20). *Press Release:* December 17

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## **2020 SYMPOSIUM CO-HOSTS**



## **NEW DATES FOR IN-PERSON EVENT!: GSN SYMPOSIUM 2022—VISION FOR DISCOVERY**

**APRIL 29-MAY 8, 2022**

**Nugget Casino Resort, Reno/Sparks, Nevada**

**This includes Pre- and Post-Meeting Field Trips and Short Courses**

**<https://www.gsnsymposium.org/>**

The 2020 Proceedings are still available for purchase as a 2-volume hardbound set (\$250 + shipping), USB drive (\$100 ) or digital download (\$100). These can be ordered online through the GSN Symposium Website. Here is a direct link to the order page:

**<https://www.gsnsymposium.org/technical-proceedings-volumes/>**

## Dave Shaddrick to receive SME Foundation and AIME award!



SHADDRICK

SME recognizes David R. Shaddrick “for his role in leading a grassroots effort to promote and advocate on behalf of the exploration industry in Nevada as president of the Nevada Mineral Exploration Coalition.”

Shaddrick has had a more than 50-year career as an exploration geologist, corporate manager and entrepreneur. Following service in the U.S. Air Force, 1961-1965, he earned a B.S. in geology from the University of Minnesota in 1970 and an M.S. in geology from the South Dakota School of Mines & Technology in 1971. He worked for Homestake Mining Co. from 1971 to 1983 and at Atlas Corp. from 1983 to 1987 in positions ranging from mine geologist to exploration manager. In 1987, he began a successful international consulting and entrepreneurial career that continues today.

Shaddrick has served as chair of the Black Hills Section of AIME/SME; vice president, president and director of the Geological Society of Nevada; and president/director of the Nevada Mineral Exploration Coalition. He holds designations as a P.Geo. from the Association of Professional Engineers and Geoscientists of British Columbia and is a certified professional geologist by the American Institute of Professional Geologists (AIPG). He is an SME Legion of Honor member, a senior fellow with the Society of Economic Geologists, an honorary member of the Geological Society of Nevada, a lifetime member of the Association for Mineral Exploration (AME) and the Prospectors and Developers Association of Canada (PDAC) and a member of the American Exploration and Mining Association (AEMA).

### OTHER UPCOMING EVENTS

**February 1, 2021:** Denver Region Exploration Geologists' Society January Zoom Meeting, Monday, Feb. 1st at 6:30 PM Mountain Time (US and Canada). Social Chat—6:30 p.m. and Talk begins at 7:00 p.m. Mountain Time (6:00 pm Pacific). **Speaker: Dr. Andrew Manning, USGS. Title: "Using Stream-Side Groundwater Discharge for Geochemical Exploration in Mountainous Terrain".** Join Zoom Meeting: <https://zoom.us/j/98421375003?pwd=emduQ3hVY1RuRlRNUVRcb0ZkS3JUZZ09>; Meeting ID: 984 2137 5003, Passcode: 962657

**February 2-April 27, 2021—NWRA Webinar Series on Borehole Geophysics Background and Application** - Introductory webinar during the annual conference, free to conference attendees. Series of 6 webinars will be held February 2nd through April 27th and are free to NWRA members with an RSVP or \$25 per webinar or a one-time purchase for all 6 for \$125 for non-members. Please go to <http://www.nwra.org/webinars> for more information, webinar titles or to register. For questions or more information call Tina Triplett at 775-473-5473 or [nevadawaterresources@gmail.com](mailto:nevadawaterresources@gmail.com). **(Don't forget to renew your 2021 NWRA Membership – go to <http://www.nwra.org/join-nwra> to become a member or renew your membership. For questions or more information call Tina Triplett at 775-473-5473 or [nevadawaterresources@gmail.com](mailto:nevadawaterresources@gmail.com).)**

**February 4, 2021** Nevada Petroleum & Geothermal Society, Reno, NV NPGS Meeting will take place via Zoom on Thurs., Feb. 4th starting at 7:00 PM. Our speaker will be Matthew Folsom of Ormat Technologies. His talk is titled "Geophysical observations and integrated conceptual models of the San Emidio Geothermal Field, Nevada". Join Zoom Meeting: <https://us02web.zoom.us/j/82807347022?pwd=QkxKWmcwMWt5akwvWC9jRmtDUXgzdz09> Meeting ID: 828 0734 7022; Passcode: 701379. Contact Rick Zehner for information: [zehnerick@yahoo.com](mailto:zehnerick@yahoo.com)

**February 8, 2021** Utah Geological Association meeting, Speaker and Topic to be Announced. 12:00 Mountain Time. The speaker will be Eric Meyer, Utah Valley University, whose presentation is titled: "Discovery of the Baldy Toreva Near Urban Areas Along the Southern Wasatch Range, Utah". Join with Google Meet: <https://meet.google.com/pec-wgex-tng>; (US) +1 617-675-4444 PIN: 744 768 565 8768#

**February 11, 2021** Arizona Geological Society meeting, Speaker and Topic to be Announced. 6:30 PM in Arizona. Visit their website at: <https://www.arizonageologicalsoc.org/>

**March 8-11, 2021** PDAC (Prospectors and Developers Association of Canada Virtual Convention). Visit GSN at the Virtual Exhibit "NEVADA" Booth during the show! GSN, NDOM, NBMG, NMEC and BLM NV are all listed with the NEVADA booth. <https://www.pdac.ca/convention>



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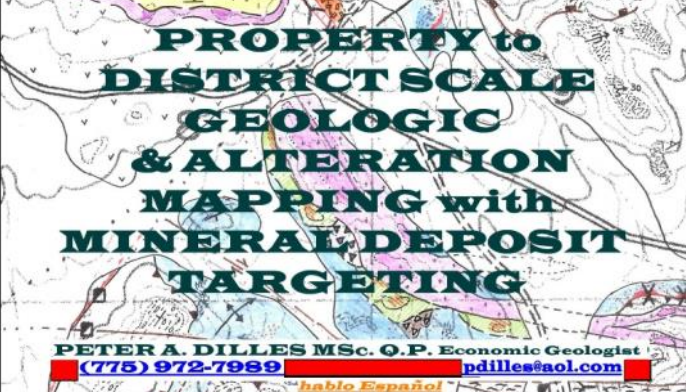
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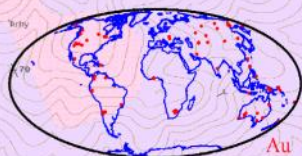
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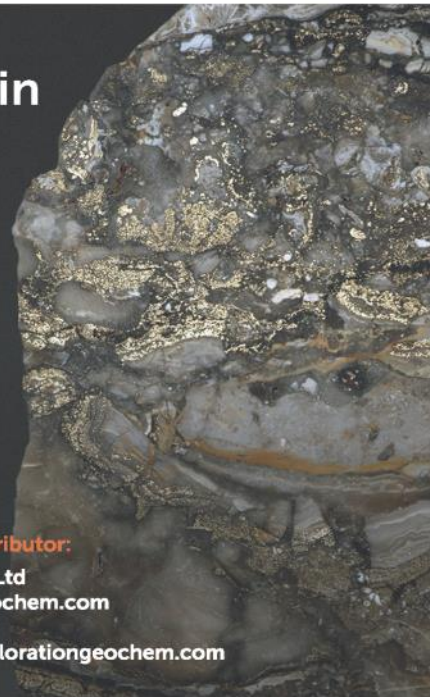
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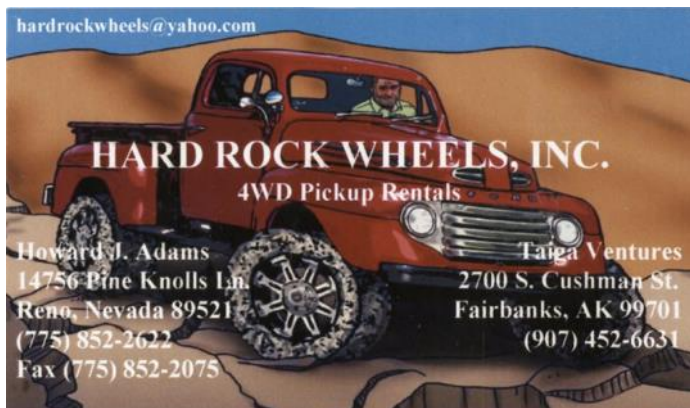
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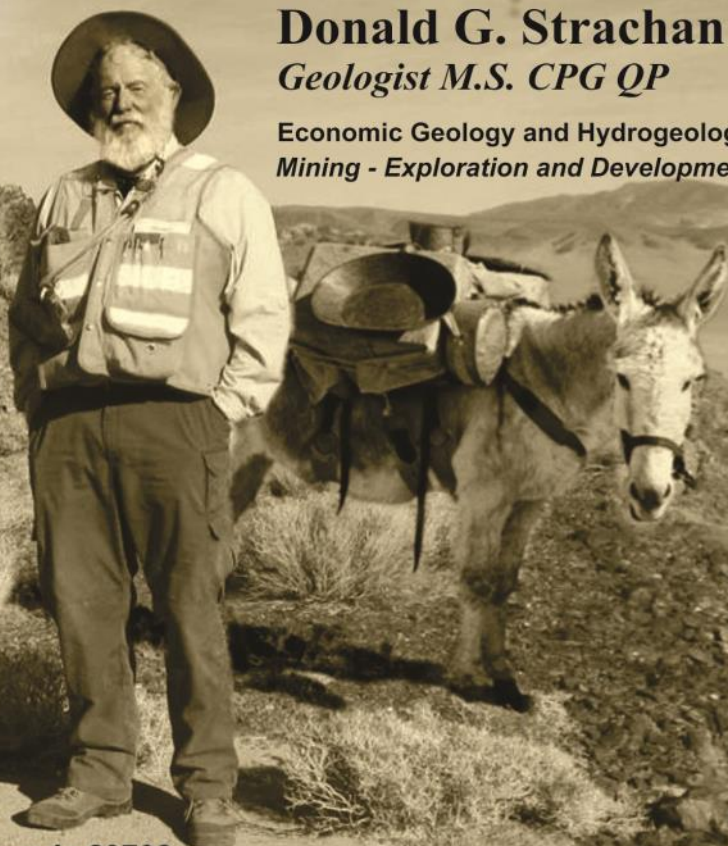
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(Please submit your backpack photos at any time!)



GSN Member, Lane Griffin has been carrying his vintage GSN Symposium backpack from **2005** all over the place! The one on the left is of the Nevada Rand property in Mineral County and the one on the right was at Atolia in the California Rand district. The backpack hasn't made it's way to the original Rand Mine in South Africa yet but he hopes to take it there someday!