



GAEA

PUBLISHED BY
THE ASSOCIATION FOR WOMEN GEOSCIENTISTS
As a global community, AWG will provide leadership,
inspiration, and encouragement to recognize and
support females in the geosciences.

SUMMER QUARTERLY | 2021

www.awg.org Vol. LXI

AWG BRUNTON AWARDEES

Brunton Awards

The AWG Brunton Award has been awarded to two outstanding women for 2020: Pamela Akakpo (our graduate awardee) and Yueyi Che (our undergraduate awardee). Here they give us updates on their field work.

Omonde Sitou “Pamela” Akakpo

My name is Omonde Sitou “Pamela” Akakpo. I am a PhD student in Geology at the University of Mississippi. My passion for geology, and especially for field work, started in high school after a field trip to the mountainous region of my home country (Togo). I then decided to pursue a career in Earth Science and have been enjoying field work since that time, whether the field activities were for a class or, sometimes, just for fun.

In summer 2020, I was a field assistant—along with three undergraduate students—for an EDMAP mapping project in Wyoming. The project was conducted by Dr. Jennifer Gifford from the University of Mississippi as part of a fellow graduate student’s (Ryan Bessen) thesis research. The goal was to map the Burgess Junction 7.5-minute Quadrangle in the Bighorn Mountains at a 1:24,000 scale. We used traditional field mapping techniques to identify and map Archean batholith phases and units of the Bighorn Mountains in the Wyoming Province. This mapping project, and the associated laboratory work, gave me some advanced training for field mapping and for sample processing for heavy mineral separation (e.g. zircon) for geochronology.

Continued Page 6

Inside this issue:

President’s Letter	AWGF Letter
Elections	Brunton Awardees
Field Trip Updates	Chapter Updates
Chrysalis Awardees	Chrysalis Where Are They Now
Announcements/Ads	AWG Awards and Scholarships



ETHICS STATEMENT

AWG members shall conduct themselves in an ethical and professional manner.

GAEA (pronounced Jee-ah) is named after the Greek goddess of Earth.

GAEA is published four times a year by the Association for Women Geoscientists. Subscription is included in annual dues. Non-members may subscribe for \$60/yr.

Editorial Information

Views expressed in GAEA do not necessarily reflect official AWG positions unless stated as such. Please submit manuscripts, news releases, and letters to

E-mail: editor@awg.org

Advertising

Classified and display advertising is available in GAEA, AWG E-mail News, and the AWG website. For more information, please contact Ad Coordinator, at: ads@awg.org

AWG Publicist

To disseminate news about your professional accomplishments, contact the AWG Publicist, at publicist@awg.org

Association Office

All other correspondence, such as change of address or chapter affiliation, should be directed to:

Association for Women Geoscientists
1333 W. 120th Ave, Ste 211
Westminster, CO 80234
Phone: 303-412-6219
Fax: 303-253-9220
E-mail: office@awg.org
Website: www.awg.org

© Association for Women Geoscientists

Materials in GAEA may be reprinted if appropriate credit is given.

From the AWG President

Dear AWG members,

I hope this letter finds you well and that you are returning to some normality in your activities. Since our last communication, we have been very active working on several projects. In particular, we continued analyzing the answers you provided in the membership survey, and we are planning and designing some activities for the next months to offer to our community. We have been also working on promoting our global community, supporting the formation of new chapters, and also working with the already established ones. Last June we had the Quarterly Chapter Call, where the chapters' officers shared great information about their activities and projects, and regarding this point, I would like to thank them and the regional delegates for the amazing work they have been doing to keep their chapters active during the pandemic. We continue making efforts to strengthen our collaboration with different global organizations, participating in some international projects, and having very active participation on different committees to improve and promote equity, diversity, and inclusion in geosciences. In addition, we have been preparing for the next AWG elections, which will be very soon (please stay tuned!), and have been also revising and improving some of our procedures in order to make them more efficient for the future. We will keep you informed about all these actions!

This is my last President's letter and I would like to take this opportunity to express profound gratitude to the AWG Executive Committee and Board of Directors. Thank you all very much for your continuous support and advice, and for being so generous with your knowledge, judgments, and time. I would also especially like to thank Lisa Tranel, who was incredibly supportive during the whole process, and also Michelle Sutherland, for her great collaboration during this period of transition. And of course, my great gratitude to the whole AWG community for your trust and support during this term and for keeping the association active and growing. Serving you all in this position has been an incredible experience for me, from which I learned a lot.

Continued page 3

AWG President

Continued from page 2

One final thought. As you may remember, the theme for this year was communication. Lately, I have been exploring some data about plant communication (for example, the work by Suzanne Simard and Stefano Mancuso), where they state that trees generate very complex underground networks with their roots and with the help of fungi in order to transfer information and different nutrients. These networks help the forests to be healthier and to increase the resilience of the whole community (please watch the beautiful Ted talk by Suzanne Simard about this topic). It was inevitable for me to relate this example to our AWG community, and how we have been revaluing the role of the networks we have been building through all these years, and the importance of expanding and nurturing them in the future. I believe that this is the goal to pursue if we truly want to achieve a diverse, equitable, inclusive, and fair community.

Thank you all again for continuing to support the AWG's mission and please, if you have any ideas, comments, or suggestions to help us in our goal of better encouraging and promoting women in geosciences, please contact us at president@awg.org or office@awg.org.

Take care,
Noelia



AWG OFFICERS

2020-2021

President

Dr. Noelia Carmona

Instituto de Investigación en Paleobiología y Geología

Universidad Nacional de Río Negro

Argentina

president@awg.org (past, current, elect)

President-Elect

Michelle Sutherland

Idaho National Laboratory

Past-President

Lisa Tranel

Illinois State University

Felmley Hall 206

Normal, IL 61790

Secretary

Leika Welcome

secretary@awg.org

Treasurer

Brianna Berg

AMI Geanalytics

Missoula, Montana

treasurer@awg.org

Editor

Karen Fryer

Professor Emerita of Geology & Geography

Ohio Wesleyan University

editor@awg.org

GAEA Coordinator

Shawn Blaesing

gaea@awg.org

Communications Coordinator

Tamie Jovanelly

communications@awg.org

AWG FOUNDATION OFFICERS 2020- 2021

President

Jennifer J. Thompson
1504 Sandman St.
Houston, TX 77007
awgfpresident@awg.org

Vice-President

Emily Browning
BP America Inc.
200 Westlake Park Blvd.
Houston, TX 77079-2663
awgfpresident@awg.org

Treasurer

Kate M. Johnson
652 Glimmerglen Road
Cooperstown, NY 13326
awgftreasurer@awg.org

Secretary

Stacey Quarles
Midland, TX
awgfsecretary@awg.org

Past-President

Charlene Sundermann
3211 18th Avenue South
Minneapolis, MN 55407
awgfpresident@awg.org

Director

David Watkins
University of Nebraska
Lincoln, NE
awgf@awg.org

**Two Vacant
Director Positions
[Volunteer today!](#)**



AWGF President's Letter *By Jenny Thompson*

Greetings from the AWG Foundation President – Jenny Thompson

Donate to the AWG Foundation to support women in the geosciences

Dear AWG members,

I hope this letter finds you well as we continue to navigate these changing times. The past year and a half has provided challenges as we have faced changes in the way we live and work. We need to continue to support one another through the activities and programs that AWG provides. The Association for Women Geoscientists Foundation was founded in 1983, yes 38 years ago, and we are still in the business of supporting women geoscientists in all stages of their lives from outreach to scholarships to awards for outstanding contributions to geoscience.

The Foundation is entering our busy time of year as we receive the reports on last years AWG project activities and proposals for AWG projects for the coming year. Reports and proposals are due September 30, 2021. As a 501 (c) (3) non-profit public benefit corporation, the AWG Foundation funds AWG projects that encourage women to study and to pursue careers in the geosciences. If AWGF has sufficient funds we will support a wide range of AWG programs.

- Scholarships – Field camp, Geoscience IDEA (Inclusion, Diversity, Equality, and Accessibility), Jeanne Harris Chrysalis
- Awards – Outstanding educator, professional awards in government/regulatory; industry/consulting; and academia/ research, excellence in paleontology
- Outreach – science fair awards, Distinguished lecture programs, GeoGirls
- Networking – outside conventions, GSA breakfast, underwriting networking events

Continued Page 5

AWGF President's Letter *Continued from Page 4*

- Chapter sponsored projects (funds are usually matched 50% raised by the chapter and 50% from the AWGF general fund) include scholarships, awards, networking events, and science fair awards

All this terrific work cannot happen without your contributions.

Based on the feedback from the membership survey conducted earlier this year, you value the AWG programs that the AWG Foundation funds, and you would like to see additional scholarships and funding opportunities. Additional feedback was that we need to focus on our current scholarships but increase the diversity and number of applicants. You can be a part of that by supporting the Foundation through both donations of time and money. Your contributions can support increased funding going to those women geoscientists that need it in all stages of their careers. Your support of time could include reaching out to your network and letting them know of the AWG programs available to support them. Contribute to the knowledge sharing through social networks or the AWG E-News or GAEA newsletter. Giving of your time provides professional development for you as well as building and supporting your network.

Please consider donating to the AWG Foundation and supporting the AWG programs, providing helping hands to this generation and the next generation of women preparing for careers in the geosciences.

Please join me in supporting AWG through the Foundation. Your contributions are what make the AWG projects possible. The AWG Foundation is managed by volunteers, so your contribution goes directly to funding the projects that are managed by individuals who really care about AWG's mission. You can donate online at www.awg.org. You can also send a check to the AWGF treasurer at the address listed below. Please include your contact info as in the form below.

As always, we **thank you** for your support of the AWG Foundation, and we will keep right on asking for more. If you have any questions or have any great ideas about fundraising or projects, you can contact me at mailto: awgfpresident@awg.org
Jenny Thompson, AWG Foundation President

**SUPPORT
AWG PROGRAMS
DONATE TODAY!**

Enclosed is my contribution of \$ _____

Please use my contribution for:

AWGF General Fund (supports greatest need)

Other: _____

Name: _____

Address: _____

City/State/Zip: _____

Phone or e-mail: _____

Mail to: Kate Johnson, AWGF Treasurer, 652 Glimmerglen Road
Cooperstown, NY 13326

Or donate online at www.awg.org

Brunton—Akakpo *Continued from Page 1*

This summer, I am a teaching assistant for two sections of our geology summer field camp class in Santa Fe, New Mexico, for undergraduate seniors in Geology and Geological Engineering; one section took place in May and the other section will be held in August. In these classes, we introduce the students to the geology of the northern part of New Mexico and we teach them how to identify Triassic to Tertiary geologic formations in various locations affected by different geologic events. We then assist them while they map those formations and consider some other engineering aspects (geologic hazards, appropriate locations to construct infrastructures, scanline surveys, etc.). The class lasts two weeks and consists of multiple projects in four different areas.

Besides the teaching aspect, the participation in these field classes is a great opportunity to continuously improve my field experience. It is also a great way to exchange with students by asking them questions, by receiving and answering their questions, or even by simply discussing some field aspects with them.

It has always been my passion to study rocks and the tectonics associated with any steps of their formation. Even more, I love to share with people what I learn, in order to communicate to them the beauty of Earth science.

To be a recipient of the AWG Brunton Award, for me, is a great honor. I take this opportunity to specially thank the AWG committee of selection for this award that encourages female students in geology to pursue their career and to remind us that being a female should not stop anyone from being a field geologist. I also thank Dr. Jennifer Gifford for encouraging me to apply to this award.

My last words to anyone who loves field work, “Always look at the big picture before you move closer to study it in detail. You will better understand what is going on”. This is what my advisor, Dr. Robert Holt, always tells me.



Continued Page 7

AWG Brunton Award: Yosemite National Park Senior Thesis Research— Yueyi Che

Glaciers are important freshwater sources around the world. They are especially significant during climate change because they serve as nature's drought buffer to balance years with less rain. Understanding previous global glacier melting events will help us understand how glaciers today will respond to global warming. Many mountain glaciers are not well constrained. I designed my honor thesis to provide more insights into the unsolved Tioga glacier melting patterns in Yosemite National Park (NP), located in the Sierra Nevada range in California, after the Last Glacial Maximum, the most recent global glacial maximum event. The main question I aim to answer is whether the glacier melted uniformly in a short period or altered between retreating and advancing during a longer melt period. Geochemical dating methods will aid in addressing questions related to the timing, rates, and patterns of Tioga glacier's glacial retreat and glacial thinning. With background research and connection to labs I developed in 2020, I went to Yosemite for collecting samples in the field.

I started my fieldwork in Yosemite NP for my senior thesis. I led two trips with my mentor Dr. Abbey and three field assistants in September and October to collect past-glaciated bedrock samples and related data for cosmogenic radionuclide dating. The field sites are backcountry and I navigated off-trail through a GPS and Brunton compass I borrowed from my department. I experienced intense wildfire smoke in both field trips due to the increasing wildfire in California. Last but not least, the COVID-19 pandemic made traveling safely and selecting field assistants harder than usual. Despite these hardships, I was determined to carry out my research safely. I used a hammer and chisel to collect bedrock samples. I also estimate shielding factors used in cosmogenic radionuclide dating from the elevation and azimuth of the surrounding features by using a Brunton compass.

I am always passionate about advocating for equity, accessibility, and inclusivity in geoscience and fieldwork. As the Chair-Elect for the Geological Society of America (GSA) Student Advisory Council, I delivered multiple online speeches on my field experience in the fall of 2020, including going to Yosemite, to students and educators from North and South America, Europe, and Asia. I believe encouragement and examples are most needed for underrepresented students to study Earth science, a scientific field that people in their communities are not familiar with. I used my story as an Asian woman in geoscience to inspire our next generation to pursue their passion with confidence.

The samples I collected in the fall of 2020 are currently being processed. This summer, with funding from various sources, I will go back to Yosemite NP to finish my planned sample collection. I am actively recruiting other undergraduate students to become my field assistants and will lead at least two backpacking trips in Yosemite this summer. I am also working on science communication projects such as articles and short films about the fieldwork that will encourage public learning about scientific research related to Yosemite and its significance for understanding current climate issues. Finally, I hope to use the bedrock exposure age data from geochemistry analysis to create a geometry model of the glacier's response to warming temperatures and then predict the glacier's mass balance change under a warming climate. This will aid mountain glacier water budget planning around the world, as well as creating a more accurate global climate model.

Continued Page 8

Brunton—Che *continued from page 7*

My honor thesis is the first research project I initiated and carried out. Thanks to my family, peers, mentors, and programs like the AWG Brunton Award, I have sufficient support on the journey of pursuing my passion for geoscience research. I believe this honor thesis is just my starting point, and I cannot wait to see what awaits me in my future as a researcher.



Harris-Chrysalis Scholarship Awardee

Natalie Kashi

Natalie’s birth name, Niloufar, means the pink lily pad flower in Farsi. She wonders if she was predestined to become a wetland scientist or if her name influenced her interests. Although she may never know the answer, she does know that ever since she stepped onto the marshy ecosystems over twenty years ago, she has been captivated by the vibrant colors and fascinating functions of these valuable systems.

Natalie earned her Bachelor’s degree in biology and worked for several years as a wetland scientist, feeding her love for exploring plants. Little did she know that working in wetlands would spark her love for soil science, and she was quickly hooked on the importance of geomorphology on wetland function and plant diversity. Her undergraduate experience led her to begin working on her Master’s degree, researching the effects of nitrogen pollution on peatlands from the oil sands region in Alberta, Canada. She advanced her scientific skills and learned the importance of science communication to both the general public and the future generation of scientists. In 2014, Natalie began the Natural Resource and Earth and Environmental Science Ph.D. program at the University of New Hampshire to refine her skills as a successful scientist, mentor, and leader. She has expanded her research to include biogeochemistry in northern Sweden peatlands and remote sensing of Arctic ecosystems. She is particularly interested in phosphorus geochemistry in different Alaskan tundra ecosystems and the ability to remotely sense ecosystem changes in phosphorus cycling in response to wildfires and permafrost thaw. She is reminded every time she is in the field of her love for these fascinating ecosystems and appreciation for the knowledge they hold. She is especially amazed that this love has easily transferred to her now five-year-old son, who often asks her to “science it out” when they find something new in nature. She looks forward to engaging in the scientific community and strives to serve as a role model for students and women of color in science.

Right—Natalie Kashi and son Nathan in the field

Continued Page 10



Harris-Chrysalis Scholarship *Cont. from page 9*

Jade Simon

I am a PhD candidate at the University of Toronto and Royal Ontario Museum studying the bone histology, ecology, and species diversity of Late Cretaceous North American oviraptorosaurs - toothless bird-like dinosaurs. I grew up inspired by roadcuts and crinoid fossils in Appalachia, but quickly fell in love with dinosaur research and moved to Montana and eventually Toronto, Canada in pursuit of graduate degrees in vertebrate paleontology. Just prior to the COVID-19 pandemic my PhD was interrupted by a difficult medical diagnosis which required extended time away from my research. Due to this unexpected health journey, I'm learning a new role as a disability advocate within academia with the help of my service dog Basil, who is quickly becoming an important part of both my disability and science outreach work. In our first year together we have been invited to discuss science and service dogs in K-12 classrooms, appeared on the [ROM Kids' Show](#) distance learning program to talk about accessibility and disability, and were recently featured in a [Nature article](#) highlighting the experiences and access needs of service dog handlers in science. I am excited to get back into the histology lab and finish my dissertation and am grateful for the financial support from the AWG Chrysalis Scholarship which makes that possible.

"ROMKids' Show" <https://www.rom.on.ca/en/rom-at-home/romkids-show/the-one-about-disability-dogs-and-dinosaurs>

"Nature article" - <https://www.nature.com/articles/d41586-021-00190-0>



Left—Jade's service dog Basil at the museum.

Below—Jade Simon at her Hell Creek field site.



AWG Chapters

2020-2021

AWG has chapters throughout the world. To keep up to date with chapter activities, [select the link](#) for your chapter of interest:

Global Chapters: Calgary, Patagonia, Dalhousie*, Mongolia, Southeast Asia, Ireland

U.S. Chapters- Pacific region— Pacific Northwest, Sierra, San Francisco Bay Area, LA /Orange County, CSU Northridge*, Southern AZ, San Diego State U*, UC Davis*, Inland Empire, UNLV*, Great Basin

Rocky Mountain Region— Montana, Salt Lake, Laramide, North Dakota, Red Rock (SO Utah)*, Black Hills*, Williston Basin

North Central— Minnesota, NE Cornhuskers, Great Lakes, UW Madison*, Mid-Michigan*, Central Indiana

South Central— Baylor*, Osage, Oklahoma City, Lone Star, Ozark HAWGS, OSU Cowgirl*, Ragin' Cajuns*, Sun City (El Paso)

Northeastern— Penn State University*, DMV

Southeastern— Southeastern Bluegrass, Florida, William and Mary*, UT- Martin*, James Madison*, Vanderbilt*, Northern FL * Student Chapters

Jean Harris Chrysalis Scholarship - Where are They Now?

Since its inception in 1996, the Association for Women Geoscientists Jeanne Harris Chrysalis Scholarship has provided degree-completion funding for women geoscience graduate students whose education has been significantly interrupted by life circumstances. Awarded funds are intended to cover costs associated with completion of her thesis/dissertation, beyond what is traditionally covered by primary research funding. Previous winners of the scholarship have gone on to do great things with their geoscience degrees. With this in mind we want to catch up with past recipients to ask a few questions about how the scholarship helped kick-start their new career.

In 2011, Dawn Roberts-Semple won the Chrysalis Scholarship as a Ph.D. student at Rutgers University. Here, Dawn shares her background and the impact of winning the Jeanne Harris Chrysalis award on her career.

Dawn: I was broadly trained in geography during my undergraduate and early years of my graduate studies in Guyana and the United Kingdom, respectively; however, my interdisciplinary background in earth and environmental sciences led me to a career of teaching in the geosciences. I started by teaching undergraduate geology courses as an adjunct lecturer on two campuses at The City University of New York (CUNY), while I held consecutive supervisory positions for programs funded by federal and state agencies: Department of Education and New York State Department of Health, respectively. It was during that time, that I was inspired and strongly encouraged to pursue a Ph.D. in Environmental Science at Rutgers University.

The challenges of pursuing an advanced degree cannot be understated, especially when the demands of field research include hours of commuting daily from one state to another. After completing the course requirements of my doctoral program, I traveled from Queens, New York to Newark, New Jersey to conduct air pollution sampling and meteorological monitoring for almost two years. Robust statistical methods were required to analyze my data, including long hours of research, writing and editing, to complete my dissertation. I incurred an unavoidable cost, since the statistical software was not readily available. At that juncture, I launched an online search for additional support, and found the Chrysalis Scholarship. I qualified for the scholarship primarily on the basis of surmounting an interruption in my research trajectory prior to my matriculation, and another during my first year at Rutgers.

I currently teach undergraduate environmental health science and geology courses in the Department of Earth and Physical Sciences at York College, CUNY. I am a strong proponent of the educational philosophy, that value is added to science courses when they extend beyond the walls of the classroom. Undisputedly, the classroom has an important place in science instruction; however, the curriculum can be effectively expanded when accompanied by field trips. First hand observations allow students to experience science in the real world in ways that cannot be duplicated in the classroom. I arrange field trips that allow undergraduate students to visit several off-campus sites that provide experiential learning to supplement and reinforce concepts taught in the classroom.

Continued Page 12

Harris-Chrysalis Scholarship WATN *Cont. from page 11*

I believe that informing students about current realities in the world, better prepares them for future careers. Instead of the excitement they could realize by pursuing the geosciences, some students have expressed a daunting outlook of science in general. I hope to change the perspective of those who enter my classroom with the misconception that the geosciences are difficult and boring. I seek opportunities that evoke exciting learning experiences to stimulate students' interest in geoscience, that may create lasting memories to help guide and establish their careers.

Did the scholarship help you achieve your goals? How so?

Yes, the Chrysalis scholarship was awarded at the appropriate time, and served the purpose of bringing my four-year study to completion a few months earlier. It provided financial support in the final stage of conducting my field research and the writing of my dissertation. Further, it expedited my progress towards the submission of my research findings to scientific peer reviewed journals for publication. Overall, the scholarship gave me the peace of mind I needed to focus and fully commit to the completion of my dissertation. It helped to improve the quality of my work, and brought my doctoral studies to a rewarding end.

Do you think you would have finished without it?

Without the scholarship, I would have completed my degree but probably not within the desired timeframe. The scholarship proved that although the road leading to the end of a graduate degree may be rough at times, it neither has to be longer than usual, nor does it need to be traveled alone – instead, the journey may be shortened with scholarships. In completing my degree, timing was of utmost importance because I had a young family. While I counted on my determination, resources and faith in my race to the finish line, getting there would have taken a bit longer without additional support. The Chrysalis scholarship made a difference in the brevity of my Ph.D. candidacy.

What would you say to other female graduate students about the scholarship?

My advice to other female students is that, if this scholarship speaks to your particular circumstances, don't be shy, apply! View it as an investment in your future and a way to alleviate any current (financial) impediment to your academic success. Sometimes, the stresses of work and family can make it difficult for students to graduate on time, and they may even discontinue their studies altogether. I hope my experience can serve as an example of the importance of sponsorship especially for graduate students whose work can be enhanced with additional financial support.



Dr. Roberts-Semple (far left) and her Environmental Health Science (EHS) majors at Baisley Park where the history of Manhattan-Brooklyn-Queens drinking water system began in 1852. Students of the EHS 340 class conducted an experiment to illustrate how fresh water reaches NYC from the Catskill Mountains by gravity flow to the water treatment plant for distribution to more than 8 million NYC residents.

We'd like to thank Dawn for sharing her story and hope that it will inspire others to apply for this unique scholarship. If you're a past recipient and would like to be featured in our quarterly article, please contact René Shroat-Lewis at rashroatlew@ualr.edu.

Chapter News

Southeastern Bluegrass

Our chapter held monthly Lunch & Learn Interviews during the fall and closed the year with a survey that was sent out to the membership as well as employees of the Kentucky Geological Survey, and students in the Earth and Environmental Sciences (EES) department of the University of Kentucky. We had about 30 people fill out the survey. Based on the feedback, we decided to reschedule our monthly meetings and we skipped our general meeting in January while we were waiting for everybody's schedule to settle. The steering committee was active during this time inviting nominations for all officer positions, establishing the nominees, discussing goals with the nominees, setting up the elections, etc. In February, we held our first officer elections since our chapter faced dissolution in the fall of 2019, through the electionrunner.com website. The new positions we created include a student liaison who is responsible for maintaining contact with the EES department, notifying student and faculty about upcoming events; an external liaison whose responsibility is to establish and maintain contact with other geology departments in Kentucky; and communications officer who is responsible for maintaining our social media presence. We also established the position of field trip coordinator, however, her role is currently limited as we are not able to organize field trips due to the pandemic. An important goal of the Chapter board is the ability to offer grant money in support of our members. We are brainstorming different ways of fundraising to make this a possibility. We are planning on reaching out to local geology-related companies and possibly creating a crowdfunding site.

Chapter Meetings:

We typically have around 10–15 attendees at our Zoom meetings.

October 7, 2020: Lunch & Learn Interview with Dr. Camelia Knapp, Department Head of the Boone Pickens School of Geology, Oklahoma State University

November 4, 2020: Lunch & Learn Interview with Dr. Nelia Dunbar, Director and State Geologist, New Mexico Bureau of Geology and Mineral Resources

December 2, 2020: Lunch & Learn Interview with Dr. Erin Campbell, Director and State Geologist, Wyoming State Geological Survey

March 9, 2021: General meeting followed by Lunch & Learn Interview with Rita Kamera, Hydrogeologist, Golder Associates, Stockholm, Sweden

-
Editor's Note: The Chapter has an attractive and useful website where you can meet the officers and see them out standing in their fields! – check it out at <https://www.southeastbluegrassawg.com>

Continued Page 14

Southern Arizona

The Southern Arizona Chapter received a Geological Society of America E-an Zen Fund for Geoscience Outreach Grant of \$1500 in August 2020. We partnered with the Women in Science and Engineering Program (WiSE) at the University of Arizona, in particular their Imagine Your Stem Future (IYSF) program with Desert View High School in Tucson. Our goals were: (1) increase interest in STEM (including geoscience) education and careers for young women; and (2) to empower the students and inspire interest in Geoscience among female and under-represented minority students by increasing access to active learning opportunities even within the context of remote learning. Due to the pandemic, the Imagine Your Stem Future program has been postponed so our initial plans to distribute kites to girls at Desert View High School has been put on hold. However, we used the grant to cover the cost of 125 take-home soil testing kits to distribute to other schools in the Tucson Unified School District (TUSD) as an extra-curricular activity for students. So far, ~60 soil testing kits have been distributed to both middle- and high-school students in TUSD. We have created guided video instructions and handouts for students and hosted two zoom events ('What's in your soil?'), where AWG Southern AZ Chapter members walked through the exercises with the students and had a more in-depth discussion and information session on soils.

In order to secure the longevity of this outreach project, we have been awarded \$1043.52 from the UA Commission on the Status of Women (CSW) for our proposal *Building Women in STEM Leaders through Geoscience Outreach*. This proposal focused on using this outreach project as an opportunity for University of Arizona students (undergraduate and graduate) and AWG Southern Arizona chapter members to develop their leadership skills. This grant will fund more soil testing kits to be distributed during the next 2021-2022 academic year.

-
The chapter implemented a mentorship program in 2019, which has been a success for undergrads as well as to get graduate students mentoring experience and to build a stronger community in our department. This year, we had plans underway to expand the program. Last Fall, we created a virtual webinar-format "how-to" series. This series includes sessions such as how to apply to graduate school, how to look for potential advisors, and how to write personal statements. Unfortunately, despite lots of interest from undergraduate students, we had zero turn out to our first webinar on prepping for graduate school. Despite this set back, this Spring we hosted a virtual pairing event and created new mentor-mentee pairs. We now have 15 new undergraduate mentees and 12 graduate mentors!

In November 2020 we hosted a virtual Careers Panel specifically geared towards graduate students interested in non-academic careers. We had four panelists that had a range of backgrounds and career paths – they spoke about their experiences and gave excellent advice. At least 35 students attended the event, and it was a huge success!

Continued Page 15

Chapter News *Cont. from page 14*

Each year, the Department of Geosciences at the University of Arizona holds an annual symposium, GeoDaze. AWG hosted a virtual “breakfast” with the keynote speaker, Dr. Christopher Jackson, with the theme *Representation and Racism in the Geosciences*.

We received an AWGF project fund to start our very own *AWG Southern Arizona Field Camp Scholarship*. To obtain an undergraduate degree in Geoscience at the University of Arizona, students have to attend a summer field camp/school which amounts to 6 weeks of time, additional course fees, and costs for camping and field gear. Students generally have to forgo summer employment or internships in order to attend. The cost of field camp creates significant financial burden on low income women and minority students and can even deter them from pursuing a degree in Geoscience. In October 2020, we hosted a virtual screening of the movie “Picture a Scientist” and a subsequent discussion as a fundraiser for our Field Camp Scholarship. We raised \$410 through this event! We distributed flyers soliciting more donations to University of Arizona Alumni and received a further \$160. Our fundraising, matched by AWGF, gave us \$1070 to allocate as 2 scholarships to low-income minority students for summer 2021 field camp. We developed a rubric for committee members to judge the applications anonymously.

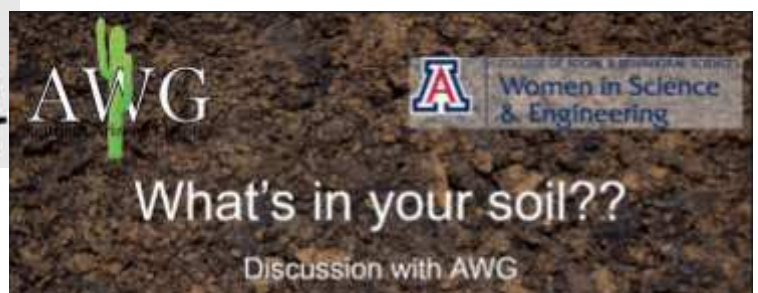


**AWG Mentorship Program
Spring 2021 Kickoff!**

Welcome!
AWG

icebreaker event – this is where new mentor-mentee pairs met! Right—Zoom session with middle school students from TUSD about soil!

Above- great discussion following the **Picture a Scientist** movie screening. Left—Mentorship Program



AWG International Elections

Election Update The AWG Nominations Committee has wrapped up their search for candidates for the 2021 election ballot. Here we introduce the candidates who have volunteered for the AWG Board of Directors. Take a moment to get to know some of your fellow AWG members!

President Elect: Deb Hanneman

Debra Hanneman received a B.S. in Natural History from the University of Toledo, Ohio, in 1975, a MSc. in geology from the University of Calgary, Alberta, Canada, in 1977, and a Ph.D. in geology from the University of Montana, Missoula, in 1989. Her professional life in the earth sciences has spanned academics, government, and the private sector. In the academic realm, she taught in the Geoscience Department at Mount Royal College in Calgary, Alberta, in the Geology Department at Montana Tech of the University of Montana, in Butte, Montana, and taught field camp in the Earth Sciences Department at Montana State University, Bozeman, Montana. She has also worked for the U.S. Forest Service in Wisdom, Montana, on forest lands mining claims, for the U.S. Geological Survey on the Survey's assessment of mineral potential for wilderness candidate areas in southwestern Montana, and as a hydrogeologist for the Montana Department of Natural Resources and Conservation. In 1991, she started her own consulting company, Whitehall Geogroup, Inc. Her consulting work includes minerals assessment, hydrogeology, oil and gas, paleontological resource evaluation, geologic mapping, and creating the websites of Geopostings.com and Earthmaps.com.



Her major research interests are continental sequence stratigraphy and paleosols. She has published numerous articles on paleosols and continental sequence stratigraphy in several professional earth science journals, including the Association of American Petroleum Geologists Bulletin, the Geological Society of America (GSA) Bulletin, the GSA Special Papers series, the GSA Decade of North American Geology series, Journal of Vertebrate Paleontology, the Leading Edge of Exploration, Montana Bureau of Mines and Geology, and the Rocky Mountain Section of the Society for Sedimentary Geology. The U.S. Geological Survey has published five geological maps of various areas in southwestern Montana with Debra being both sole author and co-author. She also is a contributor to Elsevier's *Developments in Sedimentology*, volume 62, 2010, with a chapter on continental sequence stratigraphy and continental carbonates, a contributor to various other publications including *Motherhood, The Elephant in the Laboratory: Women Scientists Speak Out* (Cornell University Press), *Tectonics, Climate Change, and Evolution: Southern Canadian Cordillera* field guide (Association for Women Geoscientists), and *Journeying Through Cuba's Geology and Culture* (Earth Magazine).

Continued page 17

Secretary: Katalina Salas

Katalina Salas is a Research Fellow with GCSE and a Ph.D. candidate in the Environmental Science and Engineering program at the University of Texas at El Paso. Her current research focuses on how people understand, communicate, and reason about future food and water availability scenarios using scientific data and models. After graduation, she hopes to continue working with bridging science and sustainability to various decision-makers to solve environmental problems faced by marginalized communities through non-profit work or teaching at a 2-year college. She is currently a Graduate Archer Fellow. She serves as the president for UTEPs Society for the Advancement of Chicanos and Native Americans in Science student chapter and the Association for Women Geoscientists Sun City Chapter. Katalina was born and raised in El Paso, TX, and has become an avid traveler and lover of the outdoors, driving her passion for uniting her community to science, sustainability, native knowledge, and education.



Communications Coordinator: Devra Hock

Devra is a Ph.D. student at the University of Nebraska-Lincoln studying mammalian paleoecology. Specifically, she's studying how mammalian traits in a community can be used to interpret regional biomes and is working primarily with Miocene fossil faunas. Devra started this research with her Master's, also at UNL, focusing on how modern mammalian communities can be used to predict biomes to start building the predictive model. Before then, she was at Montana State University for her B.S. in Geology with a concentration in paleontology along with a minor in Museum Studies. There, she did work on dinosaur eggs, even going to China on a research group with a few other students. Devra also has interests in science communication, especially through museums, and has volunteered at the Museum of the Rockies in Bozeman, MT, the Arizona Museum of Natural History in Mesa, AZ, and the University of Nebraska State Museum Morrill Hall in Lincoln, NE. Devra first joined AWG as an undergraduate in 2015, and then helped start the Cornhusker Chapter in Lincoln in 2017. She's had the privilege of being on the AWG board since 2019, first as an alternate North-Central delegate, and then later in 2019 she transitioned to one of the full delegates for the North-Central region. With her interests in science communication, Devra started helping with the website and later helped organize the Communications Committee, which oversees AWG social media accounts and coordinates between them, the website, the AWG board, and individual chapters. She's excited for the opportunity to move to Communications Coordinator and help expand AWG's online presence.



Continued Page 18

Pacific Regional Delegate: Marcia Knadle

Marcia is a long-time member of AWG and the Pacific Northwest (PNW) Chapter. She has served on the AWG Board of Directors for 22 of the past 36 years. Currently, she serves on the AWG Board as a delegate for the Pacific Region, where she has focused on making AWG’s interactions with chapters as clear and simple as possible. She has also organized or co-organized many field trips for both AWG and the PNW Chapter, most recently to New Zealand, the Western Great Lakes, the Klamath Mountains, Central California, and England. Marcia holds a Geology BS from the University of Puget Sound and a Geology MS from the University of Montana in Missoula. She has looked for oil in the Gulf of Mexico, done soils engineering on the Alaska Pipeline, and been a hydrologic technician for the USGS in Tacoma. However, most of her career was spent as a hydrogeologist for the US Environmental Protection Agency in Seattle, providing technical support for hazardous waste cleanup projects. She retired 6 years ago, which is why she has time to organize AWG field trips and serve on the AWG Board and as AWG-PNW president. Otherwise, she spends her time helping manage her childhood home on 40 acres in Maple Valley, WA.



Pacific Regional Delegate Alternate: Madeline Shaffer

Madeline Shaffer has been part of the geological community since 2009 while she was pursuing her Bachelor’s in Archaeology and Geology at the George Washington University (GWU). In 2015, Ms. Shaffer moved across the country to pursue her Master’s in Earth Science at University of California Santa Barbara (UCSB), where she published research on the ultra-high pressure tectonic evolution of the Pamir Mountain Range in Tajikistan. It was here she joined AWG as a student member. In 2018, Ms. Shaffer went on to found the DMV (DC, Maryland, Virginia) AWG Chapter, which is currently in its third year of providing free, accessible events to geologists of all ages in the DMV area. Ms. Shaffer now lives in Santa Barbara, CA, and has continued her involvement in AWG by joining the committee for the newly reinvented “Geoscience IDEA Scholarship: Inclusion, Diversity, Equality, and Accessibility,” formerly known as the Minority Scholarship. Professionally, Ms. Shaffer has worked in the Archaeology Department at the National Museum for Natural History; has taught Physical Geology classes at both GWU and UCSB; has worked as an analyst for green energy companies; and currently holds a staff position at her alma mater, UCSB, in the University Library.



Rocky Mountain Regional Delegate: Ogochukwu Ozotta

Ogochukwu Ozotta is a Ph.D. candidate in Petroleum Engineering at the University of North Dakota (UND), where she is studying the impact of CO₂ storage on the geomechanical and geophysical properties of the unconventional Bakken formation and the potential for fault reactivation. She currently works as Geophysics Research Assistant at the UND Energy & Environmental Research Center (EERC).

Continued page 19

She conducts research focused on the geological storage of CO₂, including geologic model construction, well log analyses, seismic data interpretation, rock physics, reservoir simulation, geomechanical analysis, and data analysis. Ogochukwu received her B.Tech. in Geophysics from the Federal University of Technology Owerri, Nigeria, where she investigated the evaluation and treatment of the swelling behavior of expansive soil derived from Enugu Shale. Ogochukwu received MSc. In Geological Engineering from the University of North Dakota where she characterized groundwater seepage using thermal imaging.



She pioneered the Association for Women Geosciences (AWG) Williston Basin Chapter and the Graduate Women in Science (GWIS) in Grand Forks, ND, alongside others. She serves as the Vice-President (Eastern) North Dakota Geological Society. Ogochukwu loves teaching science and geoscience to kids, especially the North Dakota T4 program (Tools Trades Torque Tech).

North Central Regional Delegate: Vicki Voigt

Vicki will be sharing her bio with us soon!

Continued Page 20

A scenic landscape photograph showing a calm lake in the foreground, with rolling hills and mountains in the background under a cloudy sky.

ON THE HORIZON...

AWG FOUNDATION FY2021 REPORTS AND FY2022 PROPOSALS

SEPTEMBER 30, 2021

Remember to submit reimbursement and disbursement requests well ahead of the fiscal year end

- Download forms and guidance at <http://awg.org/requestfunding>
- Contact awgfsecretary@awg.org for assistance with reports and proposals
- Contact awgftreasurer@awg.org for reimbursement and disbursement
- Contact awgfpresident@awg.org for new projects

Southeast Delegate: Patricia H. Kelley

Patricia Kelley is an invertebrate paleontologist whose research focuses on the evolutionary paleoecology of Cretaceous – Recent US Coastal Plain molluscs, and especially the predator-prey relationships of shell-drilling gastropods. She received her BA in Geology from the College of Wooster (1975) and her PhD from Harvard (1979). She taught at New England College, University of Mississippi, University of North Dakota, and University of North Carolina Wilmington and was a program officer at the National Science Foundation. She is a former president of the Paleontological Society, from which she received the Pojeta Award for her service to paleontology. Tricia has received AWG’s Outstanding Educator, Professional Excellence, and Encourage Awards; research awards from UND and UNCW; and five awards for teaching excellence from UNCW and the UNC system. In 2014 she was recognized as the U.S. Outstanding Master’s Universities and Colleges Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education. Tricia retired from teaching in 2016 for other pursuits, including helping with her three grandchildren, but remains active in research and in serving her professional societies. She is a strong proponent of women in geoscience; 19 of the 36 MS theses and PhD dissertations she directed to completion were by women. As a Southeast Region Delegate to AWG since 2017, Tricia enjoys continuing her role in promoting the recruitment, retention, and success of women in the geosciences.



Northeast Delegate: Julie Fosdick



Julie is an Assistant Professor at the University of Connecticut and a broadly trained geoscientist with expertise in thermochronology and tectonics. Julie received a B.S. in Geological Sciences from the University of California, Santa Barbara, and M.S. and Ph.D. degrees from Stanford University. Prior to joining the University of Connecticut in 2016, Dr. Fosdick held a NSF Postdoctoral Research Fellowship at the University of Arizona and served on the faculty in Geological Sciences at Indiana University from 2013-2016. Julie is deeply passionate about geoscience education, student mentoring, and working to promote more participation and higher success of women and minorities in science and technology. She currently serves as the Secretary/Treasurer of the GSA Geochronology Division. A transplant to New England from California (via Arizona and Indiana), Julie lives in Glastonbury, Connecticut and enjoys hiking, rock climbing, dancing, jewelry making, and adventuring in the woods with her two young sons.

Continued Page 21

Global Regional Delegate: Dr. Busayo Oreoluwa Omisore

Busayo has a PhD degree in Geophysics from China University of Geosciences, Beijing. Her research focuses on numerical forward modelling of Gas hydrates. She has worked on the development of 2D and 3D Borehole-surface Controlled source electromagnetic algorithms and codes and integrating Anisotropy in to the codes. She also worked on modelling the effects of anisotropy on earth responses from Borehole-surface controlled source Electromagnetic method. Busayo is passionate about mentoring and motivating young girls and women to study STEM and take up careers in STEM especially Geosciences. Recently, she searched for and joined AWG and has been working with the board on setting up AWG chapters in her country, Nigeria.



Thank you to all who have volunteered their service to AWG!

AWG will be heading to Iceland!

July 6-18, 2022

In cooperation with Iceland Geology Tours, AWG will host a 13-day trip to Iceland that will encompass the entire island. The total price is \$5800 (double occupancy, does not include airfare). Please see the [Iceland Geology Tours website](#) for the tentative daily agenda, included excursions, and more. The trip is limited to 13 participants.

Please contact the field trip coordinator, Marcia Knadle at fieldtrips@awg.org for more information.

Williams GeoAdventures

AWG Northern California San Andreas Fault Geology Field Trip September 16–23, 2021

Join us in a week-long field study of the remarkable geology along the North Coast of California from San Francisco to Mendocino. We will meet at Union Square in San Francisco on September 16th at 1:00 pm and end with a drop off at the San Francisco International Airport around 2:00pm on September 23th. We will stay four nights at the Marin Headlands Hostel Annex, or the Point Reyes Hostel, and three nights at the Mendocino College Coastal Field Station in Point Arena. Transportation is by coach and driver.

The San Francisco Bay Area, wave cut platforms, rocky headlands and sea stacks, uplifted terraces, crashing waves, and wide sandy beaches are your outdoor classroom as you discover how the collision of ocean and land has shaped the region. There are numerous field stops and short hikes in the San Francisco Bay Area, Point Reyes, and the Sonoma and Mendocino Coast. Topics for discussion include the San Andreas Fault, coastal processes, Franciscan and Gualala Block rocks, folds and faults, plate tectonics, and California geologic history.

The trip cost is \$1,900 per person (\$1,840 for Williams GeoAdventures services and a \$60 AWG trip registration fee). Trip participants must be current AWG members and are required to register with AWG and pay the AWG registration fee. The trip cost includes the geology field trip and guiding services and geologic field guide, transport by coach and driver, accommodations for seven nights at the Marin Headlands Hostel Annex, or the Point Reyes Hostel, and the Mendocino College Coastal Field Station, and the welcoming dinner in Sausalito. Not included in the trip cost is transportation to and from San Francisco and your home, all of the other meals, travel insurance (HIGHLY RECOMMENDED), and coach driver tip. Meals will be prepared by the group at our lodgings. Discounts are available for attendees who are willing to help coordinate the food, with student participants getting preference.

Trip registration with Williams GeoAdventures is now open by submitting a \$500 deposit, payable to Williams GeoAdventures, 101 Ross Street, #4, Cotati, CA 94931. The balance payment of \$1,340 per person is due to Williams GeoAdventures by July 15, 2021.

Trip availability is on a first come, first served basis. The maximum number of trip participants is 20. Williams GeoAdventures will provide an online application and liability waiver for the trip participants to fill out in July 2021. Trip fees are non-refundable unless you and I are able to fill your space.

We are excited about sharing the beauty of the Northern California San Andreas with you. Please contact me via email or phone with any questions about this trip. I am looking forward to seeing you all on the California North Coast in September 2021!



Thomas R. Williams, *Williams GeoAdventures*

Contact Tom at: **Email** geoteachtw@earthlink.net or **Telephone** (707) 953-6979

Contact AWG Field Trip Coordinator, Marcia Knadle at: **Email** fieldtrips@awg.org



Photo by azadeh in koma under CC BY SA



Photo by andy a forest under CC BY SA



Photo by Douglas in koma under CC BY SA



www.geology-adventures.com

Advertisements



Assistant Professor (Tenure Track) of Geological Science.

The Department of Geological Sciences, California State University Long Beach (CSULB) invites applications for a tenure-track Assistant Professor in Geophysics or in any other Geoscience discipline that substantially employs geophysical methods in research to start Fall 2022. A qualified candidate should be dedicated to teaching at the undergraduate and Masters level and committed to developing an externally funded research program that will involve students. As part of a campus that serves a very diverse community, the Department of Geological Sciences seeks candidates who, through previous experience supporting diverse students or their own lived experience, will be committed to the successful teaching and mentoring of all students.

Southern California abounds with world-class geologic exposures for teaching and research in the mountains, deserts, coast and ocean - most within a few-hour drive. CSULB is also located in the vibrant Los Angeles-Long Beach-Orange County metropolitan area, rich with universities and colleges, government agencies and local industry that provide many opportunities for collaboration.

Please follow this link for a detailed position description, list of required and preferred qualifications, and explanation of the application procedure. Review of applications will begin October 18, 2021.

<https://careers.pageuppeople.com/873/lb/en-us/job/501173/assistant-professor-of-geological-sciences->

CALL FOR NOMINATIONS

Nemmers Prize in Earth Sciences
\$200,000



Northwestern University invites nominations for the Nemmers Prize in Earth Sciences, to be awarded during the 2021–22 academic year. The prize pays the recipient \$200,000.

Candidacy for the Nemmers Prize in Earth Sciences is open to those with careers of outstanding achievement in their disciplines as demonstrated by major contributions to new knowledge or the development of significant new modes of analysis. Individuals of all nationalities and institutional affiliations are eligible except current or recent members of the Northwestern University faculty and recipients of the Nobel Prize.

The 2022 Nemmers Prize recipient will deliver a public lecture and participate in other scholarly activities at Northwestern University for up to 10 weeks during the 2022–23 academic year.

Nominations will be accepted until December 31, 2021. The online submission form at nemmers.northwestern.edu requires the nominee's CV and one nominating letter of no more than 1,000 words describing the nominee's professional experience, accomplishments, and qualifications for the award. Self-nominations will not be accepted; nominations from experts in the field are preferred to institutional nominations. Please email questions to nemmers@northwestern.edu.

The Nemmers Prizes are made possible by a generous gift to Northwestern University by the late Erwin Esser Nemmers and the late Frederic Esser Nemmers.

Northwestern

Nemmers Prizes • Office of the Provost • Northwestern University • Evanston, Illinois 60208

nemmers.northwestern.edu

Northwestern University is an equal opportunity, affirmative action educator and employer.

GAEA—Summer Quarterly—2021

AWG Membership



ENCOURAGE participation of women in the geosciences

- Scholarships
- Girl Scout Activities
- Congressional Visit Days
- Student Awards for Geoscience Excellence (SAGE)
- Outstanding Educator Award
- Geoscientists in the Park
- Women in the Geosciences Day

ENHANCE professional growth and advancement of women in the geosciences

- Free Resume Review Service
- Domestic & International Networking
- Exciting and Informative Field Trips
- Mentoring

EXCHANGE educational, technical, and professional Information

- GAEA and E-mail Newsletters
- Distinguished Lecturer Program
- Conventions
- Technical Programs
- JobWeb
- Networking with Affiliated Societies

RENEW

Online:
<https://netforum.avectra.com/eWeb/StartPage.aspx?Site=AWG&WebCode=HomePage>
 or mail / fax the form below

MEMBERSHIP RENEWAL / APPLICATION

Name: _____

Mailing Address:

Work Phone: _____

E-mail: _____

Enclose U.S. Funds, payable to AWG

Payment by: Check VISA/MC Exp. Date: _____

Card Number: _____

Signature: _____

Please mail or fax application to:

Association for Women Geoscientists

1333 W. 120th Avenue, Suite 211

Westminster, CO 80234

PHONE(303) 412-6219, FAX: 303-253-9220

Dues (new reduced membership costs):

Life Member:	\$1500
Sustaining Professional:	\$100
Professional:	\$50 *
Early Career	\$30
Reduced Income/Retired:	\$20
Student (valid student ID required).....	\$20
International Non-High Income Professional/Student...	\$10 P \$5 S
Institutional:.....	\$200
Corporate...(Includes 5 Professional Memberships)...	\$500+
Sponsor a Student Member	\$20

* Individual memberships 1/2 after July 1

For a paper copy of GAEA:

Please add the appropriate postage
 (\$12 US/ \$15 Outside North America)

AWGF Donation: \$ _____

TOTAL: \$ _____

Tax Disclosure Statement—Contributions or gifts to AWG are not tax deductible for federal income tax purposes. Dues payments are deductible as an ordinary and necessary business expense. Contributions to AWGF (501c3) are tax deductible.

THANK YOU FOR YOUR PATRONAGE!