Submitted by Suzanne O'Connell

I can’t imagine being a female Ph.D. candidate at Caltech in the mid 70’s. In 1977, the year Jo Laird earned her Ph.D., only 52 geoscience Ph.Ds. (8%) were awarded to women in the U.S. This contrasts with 345 in 2012 (41%). This is a remarkable change.

These changes in part are thanks to educators such as Professor Jo Laird. Multiple students spoke of her mantra as being *students first*. Of course metamorphic petrology is a very close second.

Jo’s interest in geology was sparked by a high school summer research project at Scripps Institution of Oceanography followed by a summer job at Iowa State University. She found the science and its connection with the out of doors an irresistible match. Along the way she was mentored by her Ph.D. advisor Arden Albee and by Helen Foster, her boss, at the USGS. Laird credits Foster with teaching her about mapping and Alaska geology and having confidence in her ability. Incredibly Helen Foster, 46 years later is one of the authors for this nomination.

Confidence in her own students is one of the keys to Laird’s success as an educator. She seems to have a knack for identifying talented young students. Through dedicated, targeted training and one-on-one tutoring, she has helped students develop the self-confidence they need to be successful. She does this while demanding excellence.

Continued Page 8
Greetings AWG!

I cannot express how thrilled I am to step into the role of President for the 2015-2016 year. AWG has played such an important role in my networking and career since I joined in 2009 that I am ecstatic to give back to the community. Before I announce this year’s theme, I would first like to recognize the two Presidents who came before me and their contributions in advancing AWG: Aimee Villareal and Denise Cox. These women have shaped me into fulfilling this leadership position, and I am incredibly thankful to consider them dear friends.

This year, AWG will follow a new theme: Recognizing Women in the Geosciences. This may seem obvious to those who have been members for a while, or who are familiar with AWG’s many awards and scholarships. But in fact, there are few women and men who nominate deserving women for awards/recognitions/promotions. There are several societies including AWG that have been trying to address the question of diversity in geoscience recognition, and for each society this comes back as a major barrier. Sheryl Sandberg of Facebook cites an internal Hewlett-Packard study in her book, Lean In, which found that men apply for a job when they consider themselves 60% qualified compared to women at 100%. Based on my work through the Awards and Scholarship Committee for AWG the past few years, I believe that those numbers may be even lower for women who deserve honors and awards.

And so, I wish to start the year by tackling this barrier! It does not matter if you are a student, young professional, esteemed scientist, or retired: if you know someone who is deserving of an award, send me his/her name and a biography to president@awg.org.

Continued Page 3
More from the AWG President  
Continued from Page 2

AWG will also be working on a short web-based series this year to answer questions about how to nominate yourself or a colleague for the recognition he/she deserves. Together, we CAN make a difference.

Cheers,
Blair Schneider

Welcome and thank you to our new and returning 2015-16 AWG Board members

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It’s that time again...

What time, you ask? Time to commit to an end-of-year donation to your AWG Foundation. AWGF, like every nonprofit with which I am affiliated, relies on end-of-year giving to keep your programs and projects funded. 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. The benefits to women geoscientists are substantial, at all stages of their careers. And your contributions are what makes this all possible.

I’ve said repeatedly here that time and treasure are the lifeblood of nonprofits, particularly AWGF. We are an entirely volunteer-managed foundation, so your contribution goes directly to funding projects and programs that are managed by individuals who care deeply about seeing that AWGF’s mission is accomplished. But, as important as time (in the form of volunteer leaders) is to us, today I’m particularly seeking your treasure.

I’m writing this in late October, the week before the annual meeting of the AWGF Board of Directors. By the time you read these pearls, we will have spent two days in a hotel conference room in Baltimore, making decisions about funding all the projects for which we have applications in hand.

If AWGF has sufficient funds to support them, in the coming year AWG will offer scholarships of many kinds, provide awards to meet expenses of travel to present a professional meetings, send excellent women speakers and mentors to colleges and universities around the country, help defray costs for field camp, provide subsidies for students to participate in AWG events, help meet the costs of judging and presenting awards at science fairs, underwrite mentoring events, and more. All this terrific work cannot happen without your contributions.

But, I digress. End-of-year giving. What is your giving strategy? Do you make a plan at the beginning of the year, choosing the causes you most want to support, and then find the resources to contribute to them throughout the year? Continued Page 5
Do you wait until a particularly compelling request comes your way? Do you respond well to repeated requests, or want to be asked just once, and trusted to respond when you can? Are you a steady giver, or a lump sum, end-of-year giver? We want to make sure that AWGF is in your strategy, no matter which approach you use.

As we move into the holiday season, one special opportunity is on the way. AWGF is a partner in #GivingTuesday, an international collaboration celebrating generosity. It comes right after Black Friday and Cyber Monday...so #GivingTuesday 2015 is on December 1. For more information on the #GivingTuesday movement, look here: http://www.givingtuesday.org. We at AWGF would be most delighted to receive your end-of-year tax-deductible donation on December 1. You can give online (http://www.awg.org, and select Donations from the upper right), or use the form below (our dirty little secret, mailing the form directly to the treasurer puts your money to work faster...).

As always, we thank you for your support of the AWG Foundation, and we will keep right on asking for more. Do you know a vehicle we should be using to broaden our donor base? I would LOVE to hear from you with your ideas.

In the meantime, if today is a good day for you to make a donation in support of AWG’s projects, here’s that form I promised. Print and mail it (with your check, of course) to AWG’s treasurer, or donate online.

Wishing you and your loved ones a joyous holiday season-

Kate Johnson
AWG Foundation President

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**Breaking News!**

At the AWG Breakfast at the GSA Annual Meeting on November 2, supporters and members of AWG contributed $13,000 to help AWGF fund AWG’s scholarships, travel grants, awards, outreach and training events, and student support programs; that’s about 17% of the annual cost of these programs. If you were among these generous donors, we thank you! If not, won’t you join us now?

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**SUPPORT AWG PROGRAMS DONATE TODAY!**

Enclosed is my contribution of $______________
Please use my contribution for:
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Mail to: Rhonda Jacobs, AWGF Treasurer, 4611 S. Evanston Ave, Tulsa, OK 74105
Or donate online at www.awg.org
The Association for Women Geoscientists is pleased to announce the awardees for the 2015 Chrysalis Scholarships. The committee has chosen four awardees this year. The recipients are: Cathleen Doherty, Columbia University; Emily Elliott, The University of North Carolina at Chapel Hill; Bridget Lee, University of California, Riverside; and Souyeon Nam, Texas A&M University.

The Chrysalis Scholarship provides degree-completion funding for women geoscience graduate students whose education has been significantly interrupted by life circumstances. The awards are intended to cover costs associated with completion of a thesis/dissertation, beyond what is traditionally covered by primary research funding. Such costs can include drafting expenses, child-care, defense travel, late-stage research and analyses, or anything necessary to assist a degree candidate during those critical, final days. The award amount varies up to $2,000, and the application deadline is March 31 of each year. See the AWG website for additional information, http://awg.org/AWGFoundation/chrysalis.htm.

Cathleen Doherty

Cathleen Doherty is a Ph.D. candidate in the Department of Earth and Environmental Sciences at Columbia University. Her research involves investigating the geochemical and dynamic evolution of the subcontinental lithospheric mantle beneath the West Antarctic Rift System. She is particularly interested in using modern analytical techniques to measure Sr-Nd-Hf-Os-Pb isotopes and trace elements in mantle xenoliths, which provide age and compositional constraints on processes occurring in Earth’s mantle. She also has strong interests in analytical method development and has worked extensively to establish and train laboratory members in new techniques. Cathleen is also deeply passionate about geoscience education and curriculum development, and hopes to foster relationships between research universities and secondary schools to establish research and training opportunities for both teachers and their students. Outside of the laboratory, she enjoys running and hiking with her 16-month old daughter, Summer.

Emily Elliott

Emily Elliott is a Ph.D. candidate in the Department of Marine Sciences at the University of North Carolina at Chapel Hill. Emily is a coastal geologist interested in how coastal sediments move from source to sink along the coastal watershed. Her research utilizes principles of sedimentology, geochemistry, geomorphology, and geochronology to establish long term, high-resolution records within modern coastal environments. Emily’s earlier work focused on barrier island development and migration through a case study in Bogue Banks, North Carolina. Her work focused specifically on the transition of a regressive to transgressive barrier island as a result of island narrowing and back-barrier erosion during a period of high storm frequency and intensity ~1100 years ago.
In addition to her Ph.D., Emily is a wife and mother of two. She plans to finish and defend her dissertation in the spring of 2016. The Chrysalis Award will provide the necessary funding for childcare during the final year of her Ph.D., a critical time as Emily finishes analysis and writing toward the completion of her dissertation. Emily wishes to send her deepest gratitude for this support and the opportunity to represent the AWG as a 2015 Chrysalis Award recipient.

**Bridget Lee**

Bridget is a Master’s student at the University of California, Riverside. Having lived in four different countries, Bridget gained a broad range of language skills, including Portuguese, Spanish, Korean and English, as well as an understanding of each culture. As a continuation of her graduate research, she is investigating the paleo-productivity and paleo-redox conditions using iron, nickel and redox-sensitive trace-metal contents during the great oxidation event (GOE), roughly 2.4 billion years ago. The Chrysalis Scholarship will allow her to be one step closer to her goal and lighten her financial burden as a mother of two children, thereby allowing her to focus more on the most important aspect of her graduate program – learning. Her diverse experiences, combined with her curriculum and research, have taught her what it means to be not only a researcher, but also a responsible scientist. She feels very fortunate to be where she is today, and intends to do her best to give back to the scientific community.

**Souyeon Nam**

Souyeon is a Ph.D. student in the department of Geography at Texas A&M. She began her career working in developmental non-governmental organizations (NGO) in South Korea. As a project manager, she was involved in projects to provide water and child education for rural communities in Cambodia and Laos. Afterwards, she worked in a regional development lab while pursuing her Master’s degree in agricultural economics from Seoul National University. She is interested in inequalities in the regional development of South Korea, which led her to co-author a paper that evaluated rural tourism in South Korea as a development strategy. Souyeon was also involved in a project that identified and mapped rural amenities in South Korea in an effort to determine the regional potential for rural tourism. Professional experience at the World Bank allowed her to analyze spatial development patterns of industry in Bangladesh, and household consumption and education in Sri Lanka.

She joined the Department of Geography at Texas A&M in 2010. Her dissertation examines environmental governance of an ecotourism project in South Korea. A recently initiated ecotourism project on a South Korean island is regarded as an exemplary strategy of regional development because of its environmentally friendly way of developing tourism and the partnership between an NGO and rural communities on the island. Understanding failures as well as successes of ecotourism will provide possible trajectories to not only South Korea, but also Asian countries seeking to achieve regional development through ecotourism.
Students’ words about her speak for themselves. One student writes, “She knows how to make each of us feel like we have something special to contribute to the learning experience.” Another says, “She has motivated me to be the best student I can be. She has helped me see that I can be even better than best if I watch her in action and follow her example.” And still another, “She taught me that my views were as important as those of any of us.”

I have read AWG Outstanding Educator Nomination folders for almost two decades and I can truly say, that I do not remember ever reading supporting letters from so many different stages in someone’s career, students, mentees, and colleagues.

Maybe that’s a testament to a very long career, but more likely, it’s a testament to the strong personal relationships that Jo Laird has fostered throughout her career. Another student, now a professor at another school, claims that Laird is influencing future generations of students, who have never met her because she is carrying on her tradition. “As I reflect upon the influence Jo has had on me over the past 20 years, it is not just the scientific knowledge she imparted, but the way she modeled how to make difficult subjects accessible to young students, showing them that advanced topics are not reserved only for the top scientist.

Praise is high from colleagues at other institutions as well. For example, “With a wonderful blend of wit and warmth, and deep knowledge of metamorphic phase relations, Jo has always been an example of what a great educator is. Whether she’s in the field, in the classroom, or at a microscope, Jo sets the standard for the blending of highest quality teaching with sophisticated research.”

It is a tribute to an outstanding educator to have mentors, students and colleagues over a fifty-year career contribute such enthusiastic support to honor an amazing geoscientist. This tribute is long overdue.
Meet Melody Bechberger, Senior Geologist at ConocoPhillips and Campus Recruiter

Melody has had a diverse career beginning with construction jobs, majoring in biochemistry, going to graduate school for dinosaur paleontology and then switching to petroleum geology because she became extremely interested in rocks. Not everyone has a targeted career path. Her diversity has been an asset in her career as she understood how to collaborate on interdisciplinary teams.

*The job market for geologists seems tight - academic positions are few and far between, oil companies are laying people off or not hiring, and traditional geology coursework is not directly applicable to every environmental job. How do recent graduates prepare themselves for finding a job in this climate? How can they be competitive?*

First, if you have waited until you have graduated, you are already behind the best students who have been working on finding, preparing for, and getting the best jobs first. It might not be too late to find a great job, but it could be harder than if you had started earlier.

Second, do well in all your classes because your career will take you places you have never thought of and you will have been well prepared for the challenges. I can't count the number of times someone has told me he/she was going to be a metamorphic petrologist; now that person is a paleontologist. I am the best example as I started out as a vertebrate paleontologist and am now working as a petroleum geologist. Even my biochemistry background has come in handy in discussions about geochemistry and advanced biomarkers in our source rocks.

Third, do your homework when applying for a job. This means networking with faculty, at conferences, your peers, alumni, and potential employers. Your network will likely be your biggest asset in helping you get jobs in your discipline. Also, practice interviewing. Google common interview questions and practice your answers so that they highlight your skill set. Anyone can answer an interview question; it takes practice/planning to answer a question with the best example that highlights your knowledge, initiative, and communication skills. Practice with friends and dissect your answers to see what skills (or detractors) you can pick up in the subtext. Research the company/department you are applying for.

*What are some of the biggest challenges you have faced in your career?*

In graduate school I was not very good at networking. My advisers didn't introduce me to the importance of networking. During conference poster sessions I would stand and read instead of interacting with the author. But, I learned with my first internship how important networking really was. I have also gained self-confidence by challenging issues and resolving them. My former boss was a role model because as soon as I met a challenge he set forth, he would give me a bigger one to tackle, and then an even bigger one. I did not always succeed or do as well as I would have liked, but I tried and usually did better than I expected. As Denise Cox, AWG Past-President advised you, not tackling challenges and pushing your boundaries is a risk; you may become stagnant or even irrelevant. So go work in a professor’s lab or get an internship and demonstrate that you can successfully tackle challenges that arise in the workforce.  

Continued Page 14
For five days this August, eighteen middle school girls with four high school mentors from Oregon and Washington explored and investigated the geology of Mount St. Helens. A group of female scientists and educators from the U.S. Geological Survey (USGS) Cascades Volcano Observatory, Mount St. Helens Institute, UNAVCO, local middle schools, and several universities led the girls in their exploration of the volcanic landscape and field-based science research. The 2015 pilot program of GeoGirls was created by Kate Allstadt, a graduate of University of Washington (UW), now a research Geophysicist with the USGS. GeoGirls was conceived and partially funded as the outreach component of her National Science Foundation Postdoctoral Fellowship at the USGS. The original plan was a short day camp with a field trip, but upon partnering with the Mount St. Helens Institute and receiving additional funding, it quickly grew into a multi-day, overnight, immersive geology and technology experience. GeoGirls is the nation’s only program that gives teenage girls the opportunity to explore the science of volcanoes through hands-on experience with cutting-edge technology, field expeditions, and personal interaction with female geoscientists.

On the second day of the program, the GeoGirls trekked over 9 miles on the Pumice Plain to decipher and interpret volcanic deposits from the 1980 eruption and the smaller eruptions that followed. To do so, they applied their knowledge from the first day of the program about stratigraphy and how to identify deposits from different types of volcanic flows. In the field, they studied the deposits both above and below ground, gathering information from outcrops and imaging the subsurface using Ground Penetrating Radar.

In small research groups led by volunteer scientists, the eager budding scientists learned geologic field techniques and technologies in real-world projects which included: correlating and mapping airfall deposits from past eruptions, a study of ecological succession in the volcanic blast zone, Global Positioning System (GPS) measurements of volcano deformation, building 3D models of volcanic features using photographs, and imaging rapidly eroding stream channels using lasers (LiDAR), a study of the story written in the sediments and water quality in lakes created by the 1980 eruption, and measuring ground vibrations from small volcanic earthquakes and rockfalls, and even counting passing cars on the road to Johnston Ridge Observatory using seismometers.

Through working with different techniques and technologies used in the geosciences and closely interacting with professionals and graduate students, the GeoGirls were exposed to a wide range of career opportunities available to them and gained first-hand knowledge of the actual process of science. “I learned that geology isn’t just about rocks,” one GeoGirl said, “I learned that there are a huge variety of jobs….it is good to try new things.” An evening career panel, which included teachers, geologists, university students, a NASA astronaut and UW geologist Dottie Metcalf-Lindenburger, provided a forum to share the triumphs and struggles these successful professionals have experienced in their careers and how they overcame unforeseen and unexpected challenges.

Continued Page 11
This year’s pilot GeoGirls program was offered free of charge to participants supported in part by a grant from the Association of Women Geoscientists - Pacific Northwest Chapter. By offering the program free of charge, girls from a variety of economic and social backgrounds were able to participate allowing for a unique team of GeoGirls. In the pilot year, over 40 girls applied, and those selected were chosen for their passion for science, their eagerness for new experiences, a desire to build science confidence, and a lack of other opportunities to actively participate in field-based science. As one GeoGirl put it, “Getting to learn more outside the classroom was very eye-opening.”

GeoGirls learned more than just science to include leadership, team building, hiking and camping. “I felt independent,” one GeoGirl said after the program, “I gained more confidence.”

GeoGirls 2016 plan is in the works, and with continued fundraising it will hopefully run far into the future. For more information and to donate visit http://www.mshslc.org/volcanic-explorations/youth-programs/geogirls/.

Photo right: On the first day, the GeoGirls explored Ape Cave, a lava tube cave formed during the Castle Creek eruptive period, about 1,895 years ago. Photo credit: Beth Bartel, UNAVCO

Photo Left: GeoGirls presenting their observations and interpretations of the deposits in this outcrop exposed in one of the lahar channels on the south side of the mountain. The observant GeoGirls described the sedimentary structures of pyroclastic deposits as looking like “brushstrokes.” Photo credit: Beth Bartel, UNAVCO
Photo Left: Out on the Pumice Plain, the GeoGirls gathered and prepared samples to compare the different types of particles in deposits from the 1980 eruption and those that came after. They also made observations of the various signs of life returning, such as small fish in the streams. Photo credit: Sonja Melander, Mount St. Helens Institute

Photo Right: The GeoGirls enjoyed spectacular views of the crater and lava dome as they hiked on the Pumice Plain to their field site, Photo credit: Sonja Melander, Mount St. Helens Institute
GeoGirls Rock Mount St. Helens

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Photo left: Before heading out for fieldwork, the GeoGirls listen in as Cascades Volcano Observatory scientist Heather Wright explains how tephra is dispersed by the wind. Photo credit: Beth Bartel, UNAVCO
What geoscience career paths do you see as having a lot of opportunities in the near future?

As Liz Catlos, geoscience professor at UT says, “The future in the geosciences is bright, and as this panel shows, there is diverse opportunity for all of us.” I think modeling has a lot of growth potential because we are always data limited. Whether it is hard to collect the data you need, too expensive, or impossible to time travel 145 million years back in time, modeling is a way to help solve problems with limited data or test alternate hypotheses. I am working with basin modelers using poor quality data to test alternate structural hypotheses and to determine the impact it has on hydrocarbon generation. I can use this information to assign % risk to my alternative interpretations to make better economic decisions on where to drill wells. The best modelers really understand their systems. You may have heard some of your professors say *garbage in, garbage out*. Even if you don’t want to be a modeler, understanding the limitations or assumptions that go into a model will help you understand the results and what you can and cannot interpret from those results.

What kind of classes would you recommend to students looking to go into exploration geology?

UT Austin has the benefit of having a large selection of classes to choose from, and the Bachelor of Science program has five geoscience electives to select from. My advice is to focus, but not to be too focused. It's important to master the fundamentals for the job you anticipate getting, but diversity is also important as it leads to creativity and innovation. In school I took more credits than were required for my major because I was interested in so many things. Try and take most of your electives within your sub-field or concentration, but take a class or two outside of that to broaden your horizons. Specifically at UT it looks like energy exploration, seismic exploration, geomorphology, construction and interpretation of 3D stratigraphy, and petroleum basin analysis would all be important undergraduate classes to consider. But there were also graduate classes one or two of which you might take to demonstrate your primary interest or focus area. Paleontology or Earth History classes are also important for my work because knowing, for examples, the changes that occur in reef building organisms or the change in source rock biomarkers through time will make you a better exploration geologist.
AWG INTERVIEW — Terra George

Submitted by Jesse Garnett White

Interviewee: Terra George, Sr. Geologist ConocoPhillips DWGOM Operated Wells

Why did you choose geology as a major at university?

I took geology and human affairs from Dr. Elizabeth Catlos (now at the University of Texas) my freshman year at Oklahoma State University. Through her class, I learned that geology is something that is more than just a class; it is also a profession. I learned that through geology I could connect my interest in earth science with solving real-world problems and spending time in the great outdoors.

When you chose your major did you know you would be focusing on the petroleum geosciences?

No, actually right after my freshman year, I started the first of three summer internships with the USDA-NRCS focusing on earthen dams throughout Oklahoma. I became interested in petroleum after getting to know Oklahoma State University (OSU) alumni who were very active in the industry. They encouraged me to explore the oil and gas side before making a final decision on a career path. I’m very thankful that I listened to them. The industry has been a great fit for me.

How long have you been a geologist in the petroleum industry?

Counting my internships in the industry, I have been working in oil and gas for 10 years.

What is your typical work day like?

A typical work day consists of update meetings about current operations and preparing wells for drilling. We have integrated teams, so the geologist serves as the hub in the wheel that connects several functions (drilling, pore pressure, regulatory, reservoir engineering, etc.).

On any given day I may need to make maps of targets, map geologic hazards, conduct geophysical screenings, plan well paths, provide geologic inputs to other functions, or write/prepare technical and regulatory documents. I answer a lot of questions and try to provide a clear path forward for well planning and scheduling in order to move projects forward.

What do you find most and least rewarding as a professional geologist?

Most rewarding: getting to solve real-world problems that impact our society.

Least rewarding: I spend a lot of time indoors.
AWG Interview — Terra George

What do you wish you knew (but didn’t) when you first contemplated this career?

I had the advantage of having some honest mentors very early in my undergraduate internship experiences so I feel I had a pretty good grasp of some of the challenges; however, it’s not until you witness a few boom/bust cycles for yourself that you can appreciate the cyclicity of our industry. It is truly something you don’t understand until you’ve seen it happen.

Are there any trends in the industry that concern you?

Two things.

One is that many younger geologists seem to not appreciate or want to learn the business aspects of the industry. As geologists we often drive business decisions, and it’s important to know how those decisions impact the business. We have to be both rock people and business people. Academia only prepares you for a small part of your role. Be open to learning the business side of things.

Secondly, I think as geologists we are becoming more and more reliant on technology to tell us the answer. As budgets get tight, it’s easy to put looking at the rocks on the back burner, but there really is no substitute for looking at the rocks. I think it’s important to find cost-effective ways to learn rocks in your field. Many of us live in areas with core storage facilities or have company internal cores. Take time to look at core or cuttings if you have them. You don’t have to do a full blown 5-day field trip; get creative on how to learn your rocks, better your interpretation, and ultimately provide for the financial health of your company. Also, find a mentor. Go pick the brain of geologists who have more experience than you do. Ask questions and learn from them. Ultimately, don’t blindly rely on what a computer reveals. Know how to QC based on your understanding of the geology.

Are you compensated to the same level as your male colleagues in the same role with the same amount of experience?

At ConocoPhillips, you are shown how your salary compares to those in your salary grade. We can see the range of pay for a particular salary grade, as well as where we rank in that. Our salary grades are based on experience and performance; therefore I do believe that I am compensated at a level equal to my male colleagues.

Does this career provide the opportunity to balance time between your work and family?

Yes, but with all careers, you have to be sure you make that balance happen. I think it’s really critical to understand what your job needs and what your family needs and plan accordingly. You have to find that right balance for yourself, your family, and your company. There is no one-size-fits-all situations here.
What advice to you have for young women entering into the petroleum geoscience profession?

Learn how to encourage and motivate from within. I know this may sound harsh; however there will be days where you just have to make it happen. As much as I have a love for geoscience, there are days that work gets tough. On those days you have to just reach inside and pull through. Curveballs will be thrown at you and you have to be able to see the positive.

I believe that a comprehensive Bachelor’s, Master’s, or Ph.D. program will teach you a lot about that. You have to come up with an idea, get the data, and work with others on a goal. You will have curveballs thrown at you and you will have to figure out how to make it through. Once you go from a blank sheet of paper in Word (with the mouse cursor staring at you) to a fully written (and better yet, signed) thesis document, it’s like no other feeling of accomplishment in the world. This is what you must draw upon in the working world.

Announcements

AWG Field Trip 2016

Join AWG for a field trip to Maine and the Maritime Canada

September 5 - 15, 2016

For more details contact Sue Finstick at suefinstick01@gmail.com
AWG AWARDS AND SCHOLARSHIPS

2016 AWG Awards for Professional Excellence

AWG is calling for nominations for three annual Professional Excellence Awards. The awards will go to women who, throughout their careers, have made distinguished contributions in one of the following categories:

- Government/regulatory agencies
- Private industry/consulting
- Academia/research

Nominations are solicited from the AWG membership at large

Professional excellence is broadly defined and may include:

- Breadth and depth of professional accomplishments
- Mentoring of other geoscience professionals
- Outreach and service activities
- Leadership in professional societies

Nominees need not be members of AWG. Non-member awardees will receive an honorary one-year membership with their award. Award recognition will be made at the GSA Annual Meeting, as well as in the Winter GAEA and AWG E-News.

2016 nomination deadline is August 15, 2016. To nominate, please submit the following items as electronic files (pdf preferred):

- Send a one- or two-page letter summarizing the nominee's most important accomplishments in professional areas that demonstrate multidisciplinary geologic accomplishments within her realm of expertise
- The nominee's CV
- Two letters of support, which can be from non-members of AWG, with a maximum of five letters
- Specify which of the three awards (see categories above) is being nominated

The nomination files can be e-mailed to: office@awg.org or mailed to:

ATTN: Professional Excellence Awards
Association for Women Geoscientists
12000 N. Washington St., Suite 285
Thornton, Colorado 80241
ADVERTISEMENTS

**Affiliate Faculty of Geology, Grand Valley State University**

The Geology Department at Grand Valley State University invites applications for a non-tenure-track Affiliate faculty position to begin in the Fall 2016. For more information about the responsibilities of the position, please visit https://www.gvsujobs.org. A minimum of a M.S. in Geosciences with teaching experience is required.

Apply online at www.gvsujobs.org. Attach a letter of application, vitae, statement of teaching philosophy and the names and contact information of at least three references familiar with your teaching. Review of applications to begin December 15, 2015 and continue until the position is filled.

Contact Peter Riemersma (riemersp@gvsu.edu) with any questions. The Geology department website may be found at www.gvsu.edu/geology. Grand Valley is an affirmative action, equal opportunity institution.

**DIRECTOR – Kansas Geological Survey -The University of Kansas, Lawrence**

Full-time position serving as the Director of the Kansas Geological Survey (KGS) and State Geologist. Must develop and articulate a vision of KGS programs, understand the concept of serving Kansas through high-quality research in the applied geosciences, and embrace a collegial leadership style. Requires doctorate in the geosciences with 10 years professional experience, 3 years administrative experience, national recognition in geoscience research, excellent communication skills, knowledge of natural resources and the environmental aspects of their use, and demonstrated ability to deal with natural-resource policy issues.

The KGS is a research and service division of the University of Kansas (KU). Created in 1889, the Survey studies the geology of Kansas, develops new techniques for exploring and analyzing geologic data, and produces and disseminates maps, reports, and scientific papers. Among the premier earth-science research and service institutions in the U.S., the KGS has an annual state budget of $5.8 million, a fiscal year 2014 grant and contract budget of $2 million, and employs more than 115 researchers, support staff, and students engaged in a variety of disciplines. Staff collaborate extensively with faculty and students in academic departments at KU.

Full announcement and application info. at [www.kgs.ku.edu/General/jobs.html](http://www.kgs.ku.edu/General/jobs.html). Review will begin January 25, 2016, position open until filled. For further information contact Jim Butler (jbutler@kgs.ku.edu) or Greg Ludvigson (gludvigson@kgs.ku.edu). KU is an EO/AAE, [http://policy.ku.edu/IOA/nondiscrimination](http://policy.ku.edu/IOA/nondiscrimination).
SCIENCE EDITOR OPENINGS 2017

GSA is soliciting applications and nominations for science co-editors for the journals Geology and Lithosphere with four-year terms beginning 1 January 2017. Geology has been ranked by the Journal Citation Reports (JCR) as the #1 geology journal for the ninth year in a row, and up-and-coming Lithosphere’s impact factor has increased 4 out of the 5 years it has been ranked by the JCR.

POSITIONS AVAILABLE

The research interests listed would best complement those of the continuing editors. Note that candidates should not feel they must have expertise in every area listed; however, editors may need to handle papers outside of their main disciplines.

GEOLOGY (position 1) geomorphology/surface processes, neotectonics, tectonophysics, geodynamics, planetary geology, volcanology

GEOLOGY (position 2) seismology, structural geology, tectonics, numerical modeling of earth processes, microstructure, rock mechanics, geofluids, planetary geology

LITHOSPHERE deformation, geodynamics, geophysics, paleomagnetism, Precambrian geology, structural geology, tectonics, neotectonics, tectonophysics, geochronology

A SUCCESSFUL EDITOR WILL HAVE

- a broad interest and experience in geosciences, including familiarity with new trends;
- international recognition and familiarity with many geoscientists and their work;
- a progressive attitude and a willingness to take risks and encourage innovation;
- experience with online manuscript systems and the ability to make timely decisions; and
- a sense of perspective and humor.

INTERESTED?

- Please submit a curriculum vitae and a letter describing why you are suited for the position to Jeanette Hammann, jhammann@geosociety.org.
- To nominate another, submit a nomination letter and the person’s written permission and CV.

Editors work out of their current locations at work or at home. The positions are considered voluntary, but GSA provides an annual stipend and funds for office expenses.

DEADLINE Nominations or applications received by 15 February 2016 will be given first consideration.

FUTURE OPENINGS (terms begin January 2018): One position each for GSA Bulletin, Geology, Geosphere, and GSA Today
American Museum of Natural History
Richard Gilder Graduate School
Master of Arts in Teaching

Change lives. Teach science.

Apply to a fully paid master’s degree program in Earth and space science that prepares you to teach in high-need middle and high schools in New York City and New York State.

Learn to teach from experienced education faculty and residency mentors. Study and conduct research alongside renowned Museum scientists.

Apply Today!

You’re invited to an open house, or an upcoming webinar, at the Museum. Complete details are available at amnh.org/mat

amnh.org/mat mat@amnh.org | 212-313-7464 | @amnh | facebook.com/amnhmat

With deepest appreciation, the Museum acknowledges Kathryn W. Davis for her generous founding support of the MAT Program.

Leadership support for the MAT program is provided by The Shelby Cullom Davis Charitable Fund.

The MAT program is supported in part by the New York State Education Department, the National Science Foundation under Grant Numbers DRL-1119444 and DUE-1340006, and the U.S. Department of Education under Grant Number 0336140036.
Tenure Track Faculty Position in Aqueous and Environmental Geochemistry

The Department of Geosciences at the University of Massachusetts invites applications for a tenure track position in Aqueous and Environmental Geochemistry at the Assistant Professor level starting Fall 2016. We are seeking talented applicants qualified for an assistant professor position. Under exceptional circumstances, highly qualified candidates at other ranks may receive consideration. A Ph.D. in Geosciences or related field is required at the time of appointment and post-doctoral experience is preferred.

The successful candidate will have research interests within the broad area covered by the position title. These areas might include critical zone and near-surface weathering, processes that occur at solid-water interface, including biological interactions, or chemical, physical and biological processes controlling the transport of dissolved species. It is hoped that the candidate will have interests in isotope or trace element geochemistry and the application of geochemical tools to a broad range of scientific questions.

Research within the Department of Geosciences revolves around four main clusters: Global Change and Surface Processes; Water; Dynamic Earth; and Geography, Society and the Environment. It is expected that successful candidate will develop a rigorous externally funded research program and contribute to one or more of these research themes. Candidates who have experience in integrating geochemical tools with quantitative approaches to solving problems in natural systems are especially encouraged. Field-oriented research that could be incorporated into both undergraduate and graduate courses will be an asset. Teaching will involve participation in a large-enrollment introductory course in addition to appropriate advanced undergraduate and graduate courses.

Applicants must submit a cover letter, CV, research statement, teaching statement, and contact information for three referees familiar with their research and teaching efforts to: http://umass.interviewexchange.com/jobofferdetails.jsp?JOBID=64033. For more information, visit the Department of Geosciences website (www.geo.umass.edu) or contact the Search Committee Chair (search@geo.umass.edu). Review of applicants will begin 16 November 2015 and continue until the ideal candidate is identified.

The university is committed to active recruitment of a diverse faculty and student body. The University of Massachusetts Amherst is an Affirmative Action/Equal Opportunity Employer of women, minorities, protected veterans, and individuals with disabilities and encourages applications from these and other protected group members. Because broad diversity is essential to an inclusive climate and critical to the University's goals of achieving excellence in all areas, we will holistically assess the many qualifications of each applicant and favorably consider an individual's record working with students and colleagues with broadly diverse perspectives, experiences, and backgrounds in educational, research or other work activities. We will also favorably consider experience overcoming or helping others overcome barriers to an academic degree and career.
Department of Geosciences
PRINCETON UNIVERSITY

Professorship in Climate Science

The Department of Geosciences at Princeton University welcomes applications for a faculty position, preferably at the tenured level, in the area of climate dynamics and fluid dynamics of the atmosphere and ocean. The appointee will have an outstanding track record in the theory and/or numerical modeling of the global climate system. The appointee will be a member of the Program in Atmospheric and Oceanic Sciences, a joint program between the Department of Geosciences and the NOAA Geophysical Fluid Dynamics Laboratory.

Applicants should submit a curriculum vitae, including a publication list, a statement of research and teaching interests, and contact information for three references to http://jobs.princeton.edu. Evaluation of applications will begin immediately; interviews of candidates will begin in February 2016 and will continue until the position is filled.

Assistant Professorships in Climate Science

The Department of Geosciences at Princeton University seeks two climate scientists, broadly defined, to be considered for tenure-track positions at the assistant professor level. The areas of focus for the search are: i) the global carbon cycle and global biogeochemical dynamics, including their history, and ii) field- or laboratory-based paleoclimate studies. The expectation is that one faculty member will be hired in each of these areas. We are particularly interested in scientists who will diversify and extend the climate-related research activities of the department as well as enhance collaboration across the university.

Applicants should submit a curriculum vitae, including a publication list, a statement of research and teaching interests, and contact information for three references to http://jobs.princeton.edu. Evaluation of applications will begin immediately; interviews of candidates will begin in February 2016 and will continue until the positions are filled.

Princeton University is an Equal Opportunity Employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law. These positions are subject to the university’s background check policy.
U.S. Nuclear Waste Technical Review Board
Vacant Position
Senior Professional Staff- Geoscientist

The U.S. Nuclear Waste Technical Review Board (Board) is seeking a geoscientist or a scientist (U.S. Citizens) with the appropriate qualifications and experience for appointment as a member of its Senior Professional Staff to support its review of Department of Energy (DOE) activities related to the management of spent nuclear fuel and high-level radioactive waste. Located in Arlington, VA, the Board is an independent agency of the U.S. federal government that evaluates the scientific and technical validity of activities undertaken by DOE in managing and disposing of spent nuclear fuel and high-level radioactive waste. DOE manages and will dispose of its own spent nuclear fuel and high-level radioactive waste. Under the terms of the Nuclear Waste Policy Act of 1982, DOE will also transport spent nuclear fuel from commercial nuclear power plant sites to federal facilities and manage its later disposal.

Applicants should desire a high degree of independence in their working environment and should be able to assume full responsibility for providing technical support to the Board. The selected candidate must qualify for a Top Secret clearance and be willing to travel to Board meetings. Some international travel may be required.

For additional information about the position and about how to apply please see announcement number NWTRB-05-2015-GEO at www.usajobs.gov or visit the Board’s website at www.nwtrb.gov.

The U.S. Nuclear Waste Technical Review Board is an equal employment opportunity employer. All qualified applicants will receive consideration for appointment without regard to race, religion, color, national origin, gender, political affiliations, handicap, or any other non-merit factor.

Members of the AWG Board at the Fall AWG Board Meeting in Baltimore, MD
RENEW YOUR AWG MEMBERSHIP FOR 2016 AND GET CONNECTED!

AWG dues were reduced in 2014 so consider a membership gift for a friend or student. Please renew online at the following link:

- Or go to www.awg.org and select the tab for Membership >> Join Online

Click on the Member’s Only Login Tab

- Your login is your e-mail address.
- If you are a renewing member and this is your first time logging into our database, your temporary password is Geowomen+First letter of your first name + First letter of your last name (i.e. GeowomenXX); it is case sensitive.
- If the system doesn’t respond to the password, click on the “Forgot your password” link. If the system still isn’t responding for you, please contact the AWG office at office@awg.org or call 303-412-6219.
- The AWG office is staffed on Tuesdays, Wednesdays, and Thursdays – 7:30 to 3:00 MST.

Click on the Online Store Tab

- Under the featured products use the “Shop for” pull down menu to select membership.
- Choose your member level and Add to Cart.
  
  Note: If you are paying for multiple years, each year needs to be purchased as a separate item in your shopping cart.

CONNECT A STUDENT OR PROFESSIONAL

Continue Shopping

- Select an additional student, professional, or sustaining membership.
- On the “referred by” line enter your name and the name of the person(s) and their e-mail and we’ll let them know they are connected!

CONNECT WITH THE FOUNDATION

Continue Shopping

- On the shop for pull down menu select “donation/fund.”
- Select the “AWG foundation donation or the specific award, donation,” or “scholarship” of your choice and enter the amount.

Proceed through the Checkout Process

You and any designated individual will receive an e-mail receipt upon completion of the transaction.

CONNECT YOUR INSTITUTION OR CORPORATION

Contact Mona Scott (office@awg.org) and let us know if you want AWG to help you connect your Institution or Corporation!
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

MEMBERSHIP RENEWAL / APPLICATION

Name: ___________________________________
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Card Number: ______________________________
Signature:________________________________

For a paper copy of GAEA:
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Institutional:.....................................................$200

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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!