

# Anita M. Stone Marshall, PhD

Lecturer, University of Florida Department of Geological Sciences

## HIGHLIGHTS

- Expertise in inclusive teaching and learning practices in classroom and field settings with extensive experience in geoscience course design and instruction.
- Primary research area focuses on accessibility in the geosciences, geology field learning, and academic and social engagement.
- Secondary research area geophysical surveys and modeling to examine sub-surface features and eruption characteristics of phreatomagmatic eruptions.
- Director of Operations for the 501-c3 non-profit International Association for Geoscience Diversity, [www.theAGD.org](http://www.theAGD.org).
- Principle Investigator and point of contact for the Library of Inclusive Field Technology, aka [the LIFT kit](#).

## EDUCATION

### **Ph.D. Geology – University of South Florida, 2018.**

Focus: Geoscience Education & Volcano Geophysics. Dissertation: “Evaluation of Academic and Social Engagement in a Technology-Based Collaborative Approach to Inclusive Geoscience Field Learning”. Co-Advisors: Dr. Jeffrey Ryan & Dr. Christopher Atchison (U. of Cincinnati). Advisor for volcano geophysics research: Dr. Sarah Kruse.

### **M.S. Geology – University of Arkansas, 2005.**

Focus: GPS Geodesy & Hydrology. Thesis: “Establishing a Land Subsidence Observation Network Using Static and Kinematic GPS in the Grand Prairie Agricultural Region of Eastern Arkansas”. Advisors: Dr. Glen Mattioli and Dr. Pamela Jansma

### **B.S. Earth Science – University of Arkansas, 2001.**

## APPOINTMENTS

2019-now **Lecturer – University of Florida, Gainesville FL (starting Fall 2019)**

### Full Course Design & Implementation:

- Age of Dinosaurs GLY 1102 (online)
- Economic & Professional Geology GLY 4930 (classroom and field\*)  
\*Co-designed co-delivered with working geoscience professionals
- Earthquakes Volcanoes and other Hazards GLY 1180 (classroom & online)

### Courses taught but designed by others:

- Environmental and Engineering Geology GLY 2030C (online)

2019 Spg **Adjunct Instructor – Hillsborough Community College, Tampa, FL**

- Introduction to Earth Science (classroom)

2017-2018 **Adjunct Instructor / Teaching Assistant – University of South Florida, Tampa, FL**

### Full Course Design & Implementation:

- Physical Geology (classroom)
  - Introduction to Earth Science (classroom)
- Teaching Assistant with grading and some teaching duties:
- Geology for Engineers
  - Introduction to Oceanography
  - Geophysics Field Camp
  - Applied Geophysics/Physical Volcanology 10-day field course

2015-2018 **Research Assistant – University of Cincinnati**, OH (off-site)  
 NSF GEOPATH grant funded project: “Engaging Students in Inclusive Field Experiences via Onsite and Remote Partnerships”, Award #1540652

- Contribute to research design, logistics & student support for 2 week-long field courses (Arizona & Ireland) for a group with diverse physical abilities.
- Collect & analyze qualitative and quantitative data on student experiences.
- Photo & video documentation including use & maintenance of 2 DSLR cameras, 6 GoPros and a quadcopter. Full production of project-related videos including writing, editing & narration.

2006-2012 **Geology Instructor, Northwest Arkansas Community College**, Bentonville, AR.  
 Developed and taught Physical Geology lecture/lab hybrid course.

2001-2005 **Graduate Research Assistant, University of Arkansas**, Fayetteville, AR.  
 Planning and execution of campaign-style geodesy research in the Caribbean (tectonics) and eastern Arkansas (hydrology/subsidence). Training of undergraduate and graduate students in equipment installation, use and data collection

## PUBLICATIONS, PRESENTATIONS & PRESS

<sup>†</sup> invited \* student/mentee Orcid Researcher ID: [orcid.org/0000-0003-0082-0773](https://orcid.org/0000-0003-0082-0773)

### Refereed Publications

2019 Atchison, C. L., **Marshall, A.M.**, & Collins, T., *A multiple case study of inclusive learning communities enabling active participation in geoscience field courses for students with physical disabilities*. Journal of Geoscience Education. <https://doi.org/10.1080/10899995.2019.1600962>

2017 Carabajal, I.G., **Marshall, A.M.**, & Atchison, C.L., *A synthesis of instructional strategies in geoscience education literature that address barriers to inclusion for students with disabilities*. Journal of Geoscience Education. <https://doi.org/10.5408/16-211.1>

2015 **Marshall, A.**, Connor, C., Kruse, S., Malservisi, R., Richardson, J., Courtland, L., Connor, L., Wilson, J. and Karegar, M.A., *Subsurface structure of a maar-diatreme and associated tuff ring from a high-resolution geophysical survey, Rattlesnake Crater, Arizona*. Journal of Volcanology and Geothermal Research. <https://doi.org/10.1016/j.jvolgeores.2015.09.006>

George, O.A., McIlrath, J., Farrell, A., Gallant, G., Tavarez, S., **Marshall, A.**, McNiff, C., Njoroge, M., Wilson, J., Connor, C.B., Connor, L., and Kruse, S., *High-Resolution Ground-Based Magnetic Survey of a Buried Volcano: Anomaly B,*

Armargosa Desert, NV. *Statistics in Volcanology* 1.1: 3.  
<http://dx.doi.org/10.5038/2163-338X.1.3>

### Refereed Publications in Progress

**Marshall, A.** & Downs C. Ground Penetrating Radar investigations of phreatomagmatic tephra deposits in the San Francisco Volcanic Field, Northern Arizona. *Written for a call for papers about volcanology research in N. Arizona.* Submission deadline summer 2020.

### Presentations Panels & Speaking Engagements (i = invited)

- 2020
- i Ali, H., Marin-Spiotta, E., Williams-Stroud, S., Jackson, C., **Marshall, A.**, and Siegal, D. The way forward: towards an anti-racist and equitable geoscience community. Panel. GSA Geological Society of America Annual Meeting (Virtual).
  - i **Marshall, A.** The impact of experiential learning on degree persistence and professional pathways for students with disabilities in the geosciences. Session T246, invited speaker. GSA Geological Society of America Annual Meeting (Virtual).
  - Cooke, M., Bell, C., Breitbart, M., Cooperdock, E., Levin, N., **Marshall, A.**, Neimi, N., Stevens, L. Making the Hidden Curriculum Transparent through 1st year courses for Geosciences Graduate Students. Session T238. Poster. GSA Geological Society of America Annual Meeting (Virtual).
  - ~~i Diversity in STEM Symposium invited speaker, USF Tampa, April 23, 2020 (Cancelled, COVID)~~
  - i **Marshall, A.** The Mountains are Calling and We Can All Go! Accessibility, Inclusion and Innovation in the Geosciences. SACNAS Southeastern Regional Conference, University of Florida, Gainesville. Feb 29, 2020, and companion Webinar: <https://youtu.be/dpREXlhyK7A>
- 2019
- Marshall, A.** Atchison, C.L., Collins, T., Davies, S. Developing a community resource of tools and training to enable ability-inclusive fieldwork. Geological Society of America Annual Meeting, Phoenix, AZ.
  - ~~i **Marshall, A.**, Atchison, C.L., Collins, T. Building stronger, more inclusive geoscience learning communities through accessible field experiences. Invited talk. American Geophysical Union Fall Meeting, San Fransisco, CA. (cancelled)~~
- 2018
- Marshall, A.** Evaluation of a technology-based approach to inclusive field learning designed to create engaging geoscience field learning opportunities for students with disabilities. Poster. American Geophysical Union (AGU) Fall Meeting, Washington D.C.
  - Richardson, J., Wasser M., **Marshall, A.**, Jones, A., Petro, N., 3D Printing planetary landscapes and geophysical models with NASA spacecraft data for science outreach. Poster. AGU Fall Meeting, Washington D.C.
  - Marshall, A.**, Atchison, C., Collins, T., Whitmeyer, S., Pyle, E., Crompton, H., Piatek, J., Carabajal, I. Academic and social engagement through student-led photo and video documentation in collaborative geoscience field learning.

Technical presentation at the Geological Society of America (GSA) Annual Meeting, Indianapolis, IN. doi: 10.1130/abs/2018AM-321630.

- <sup>i</sup> **Marshall, A.**, Improving Access to Geoscience Career Pathways for Individuals with Disabilities. Speaker. Sept 8, 2018. Mining and Exploration International Conference, Las Vegas, NV.
- <sup>i</sup> **Marshall, A.**, Riley, K., Prosser, R., Krishnamurthy, M., McClintock, C., Panel: Navigating a Career in STEM. Women in STEM Research Symposium, Knoxville, TN. <https://cfwstem.weebly.com/symposium.html>
- 2017 <sup>i</sup> McNutt, M.K., Starkweather, S., Myles, L., **Marshall, A.**, Holmes, R., Williams, B., Marin-Spiotta, E., Creating Inclusive and Diverse Field and Lab Environments within the Geosciences. Union Session. AGU Fall Meeting, New Orleans, LA.  
**Marshall, A.**, Atchison, C.L., Collins, T., Crompton, H., Pyle, E., Whitmeyer, S., Carabajal, I., Historical Context and Evaluation of Engagement in a Technology-based Approach to Accessible Geoscience Field Learning. GSA Annual Meeting, Seattle, WA.  
**Marshall, A.**, Fieldwork in the Geosciences: Formats, Social Climates, and the Impact on Students with Disabilities. Presentation at the GSA South Central Regional Meeting, Richmond, VA
- 2016 <sup>i</sup> Atchison, C., Whitmeyer, S., Piatek, J., **Marshall, A.**, Carabajal, I., Pyle, E., De Paor, D. and Eriksson, S., Expanding Access to Field-Based Learning Through the use of Mobile Technologies and Mixed-Ability Student Grouping, GSA Annual Meeting, Denver, CO.  
Piatek, J.L., Thomas, C.\*, Pritchard, C.\*, Morris, M.\*, Whitmeyer, S.J., Atchison, C.L., Eriksson, S.C., **Marshall, A.M.**, Carabajal, I.G. and Pyle, E.J., Virtual Field Trips as Gateways to Field-Based Experiences in Geoscience and Preservice Education Courses, GSA Annual Meeting, Denver, CO.
- 2015 **Marshall, A.**, Kruse, S., Macorps, E., and Charbonnier, S., Ground Penetrating Radar and Magnetic Investigations of Phreatomagmatic Tephra Rings, San Francisco Volcanic Field, Northern Arizona, Preliminary Results. Poster, AGU Fall Meeting, San Francisco, CA.
- 2014 **Marshall, A.**, Kruse, S., Connor, C., Malservisi, R., High Resolution Geophysical Surveys and Modelling to Improve Understanding of the maar-diatreme and surrounding Tuff Ring at Rattlesnake Crater, SFVF, Arizona. 5<sup>th</sup> International Maar Conference, Queretaro Mexico.
- 2013 **Marshall, A.**, Kruse, S., Connor, C., Connor, L., Abdollahzadeh, M., Harburger, A., Richardson, J., Courtland, L., Farrell, A. and Kiflu, H., High Resolution Magnetic and Gravity Surveys to Constrain Maar Geometry and Eruption Mechanisms, Rattlesnake Crater, Arizona, AGU Fall Meeting Abstracts, pp. 2831.  
Kruse, S., McNiff, C., **Marshall, A.**, Courtland, L., Connor, C., Charbonnier, S., Abdollahzadeh, M., Connor, L., Farrell, A. and Harburger, A., Scoria Cone and Tuff Ring Stratigraphy Interpreted from Ground Penetrating Radar, Rattlesnake Crater, Arizona, AGU Fall Meeting Abstracts, pp. 2835.

2010 **Marshall, A.**, “Karst-The Movie”: Applying the Creative Talents of College Students to Topics in General Geology. GSA Mid-South Regional Meeting, Branson, MO

**Online Content Creation & Multimedia Productions:**

2020 <sup>i</sup> **Marshall, A** & Thatcher, S.\*, Creating Spaces for Geoscientists with Disabilities to Thrive. *Eos*, 100, <https://doi.org/10.1029/2019EO136434>. Published on 02 December 2019.

2018 <sup>i</sup> **Marshall, A.** [Moving Forward: Overcoming our Ideas About Disability in the Geosciences](#). Speaking of Geoscience, The Geological Society of America blog. [ADVANCEGeo](#) website contributor, “Accessible Field” section.

2017 Atchison, C.L. & **Marshall, A.** [Overcoming physical barriers to the geosciences](#). *Explorer*. American Association of Petroleum Geologists, 38(10), 30;32  
[The IAGD in Ireland: Exploring Approaches to Inclusive Field Geology](#). YouTube.  
[Accessible Arizona and the IAGD Foundation](#). YouTube.

**Marshall, A.** & Atchison, C.L., [Designing Accessible Field-Based Learning Experiences in the Geosciences](#), NSF STEM for All Video Showcase. WINNER: People’s Choice Award.

**Press & Media Interviews and Contributions:**

2020 Schwarber, A. [ADA at 30: Scientists urge efforts beyond compliance](#). *Physics Today*. Published August 3, 2020.

Sima, R. [Accessibility and Fieldwork in the Time of Coronavirus](#). *EOS*. Published July 23, 2020.

Kowalski, K.M. [An accident didn’t stop this geologist from doing field work](#). *Science News for Students*. Published March 3, 2020.

2019 Farias, A. “Episode 34: Anita Marshall”, *Level Up: On Presence and Belonging*, University of Florida Office of Diversity Podcast. Published 10 December, 2019.

Stein, Vicki. [This young scientist studies wild animals. Bias against disability won’t stop her](#). *PBS NewsHour*.

**PROFESSIONAL DEVELOPMENT**

2020 ~~Short Course: Change Detection with SfM and GPS: Teaching Undergraduates in the Field. Pocatello, ID. Rescheduled to 2021, COVID.~~

Early Career Geoscience Faculty Workshop: Teaching, Research and Managing Your Career. July 26-30, 2020, Baltimore, MD. *Moved online, COVID*

2018 Remote Pilot Certificate with a Small UAS rating (license # on request)

UNAVCO Early Career Workshop, Earth Educators Rendezvous.

AGU Mentoring Network participant.

2015 Directed research in GIS: ArcGIS training including creating databases, creating digital elevation models, digitizing paper maps, and georeferencing.

- 2014 Probabilistic Volcanic Hazard Assessment Workshop hosted by USF.  
 2014 LiDAR data processing & visualization GIS workshop at CVASt, USF.

**AWARDS & HONORS**

- 2018 USF Richard A. Davis Fellowship for Outstanding Graduate Student.  
 2017 USF Provost’s Award for Outstanding Teaching by a G.A., Honorable Mention.  
 2011 National Society of Leadership and Success Award of Excellence in Teaching.  
 2008 NWA Community College “Halls of Excellence” Mentorship Award.  
 2001-2003 Benjamin Franklin Lever Diversity Fellowship, University of Arkansas.

**PROFESSIONAL SERVICE & SYNERGISTIC ACTIVITIES**

**Service to UF Geology Department**

2019-2020 Committees

- Diversity Committee
- Undergrad Education Committee
- Geophysical Equipment Committee

Experiential Learning Coordinator

- Help undergrads find and connect with learning opportunities outside of the classroom.

**Service to the University**

- 2020 Nominated to UF Presidential Committee for People with Disabilities

**Service to the Profession**

Ongoing Director of Operations, The International Association for Geoscience Diversity, a 501c3 non-profit. (2018-present). Mentor geoscience students and professionals with disabilities, advocate for improved access and inclusion with professional societies including virtual and in-person meetings with the leadership of AGU and GSA. Provide guidance and resources for faculty to better accommodate students and create more inclusive learning environments. Create and curate online content for the IAGD, organize events, and work with executive board on all aspects of operations.

Co-Chair of the Diversity and Inclusion Committee for the NSF funded Conservation Paleobiology Research Coordination Network (as of April 2020).

- 2018 Conference Accessibility Audit, Geological Society of America special project. Assisted with data collection at 2018 national conference, analyzed results & co-created and co-presented report for GSA leadership.
- 2016-2018 Executive Councilor, The International Association for Geoscience Diversity.
- 2017 Rising Leadership Academy, U.S. Business Leaders Network (now Disability:IN).
- 2014-2016 President, USF Geology Graduate Student Organization.
- 2013-2015 USF GGSO Education and Community Outreach Coordinator.

### **Manuscript Reviewer:**

Journal of Volcanology and Geothermal Research, Elsevier

Journal of Women and Minorities in Science and Engineering, Begell House

Journal of Geoscience Education, Taylor & Francis

### **Conference Sessions Chaired & Field Trips Organized:**

- 2020 Marshall, A., Lead Field Trip Organizer: Accessible Ottawa: One Billion Years of Geologic History. Co-organizers: Piatek, J., McLarty Halfkenney, B., Hymers, L., Aylsworth, J. and Doughgherty, J. Organized for GSA fall meeting in Montreal, Canada, 2020. (upcoming)
- 2019 Bentley, C., **Marshall, A.M.**, Hams, J.E., Education and Outreach in the 21st Century: *Using Imagery and Social Media to Engage Students and the Public*. T200. Geological Society of America, Phoenix, AZ. (upcoming)
- 2018 Hams, J.E., **Marshall, A.M.**, Eriksson, S.C., *Beyond Pretty Pictures: The Role of Photography in Promoting Understanding and Learning in the Geosciences*. T73. Geological Society of America, Indianapolis, IN.
- 2017 Kimball, M.A, **Marshall, A.M.**, Carabajal, I.G., *Geoscience Education: International Field Experiences in the Digital Age*. D25. Geological Society of America, Seattle, WA.

### **Professional Memberships**

Society for Advancement of Chicanos/Hispanics and Native Americans in Science (as a member of the Choctaw Nation of Oklahoma) • Geologic Society of America • American Geophysical Union • National Association of Geoscience Teachers

### **RESEARCH FUNDING & GRANT AWARDS**

#### **Funded Projects**

- 2019 P.I. Inclusive Fieldwork Toolkit - Community resource of technology to enable accessible field work. NSF Equipment Grant # 1941497 (\$49,715).
- 2015 GSSI/AGU Near Surface Geophysics Group Student Research Grant (\$2,000)
- 2013 Geological Society of America Student Research Grant (\$950)

#### **Pending Proposals**

- 2020 P.I. GP-GO: GeoScientists Promoting Accessible Collaborative Education (GEOSPACE). NSF GEOPATHS-GO Proposal #2023124. (\$436,988) Co-PIs: Elardo, S. U. of Florida, Williams, A, U of Florida, Piatek, J., Central Connecticut State U., and Williams, D., Arizona State U.
- Co-PI.** NSF Geoscience Opportunities for Leadership in Diversity - Expanding the Network (GOLD-EN). Research Coordination Network: Geoscience ASCEND (Associated Societies Committed to Embracing and Normalizing Diversity). Lead PI: Boss, S. University of Arkansas, Co-PIs: Garcia, A, James Madison University, McConnel, V and Bear, T., Geological Society of America.

### **TRAVEL & WORKSHOP GRANTS NOT LISTED ABOVE**

2019 Geoscience Alliance Supporting Native Americans in Geosciences (all exp.)  
2018 UNAVCO Early Career Travel Award, Earth Educators Rendezvous (all exp.)  
2017 GSA Geoscience Education Division Travel Award (\$200)  
2016 On to The Future Program, Geology Society of America (registration, travel)  
2015 USF School of Geosciences Tharp Research Grant (\$500)  
2014 Student Travel Award, 5th Intl. Maar Conference, Queretaro, Mexico (\$1,000)  
2013 Graduate Student Travel Grant, American Geophysical Union (\$500)