

You First Podcast Episode 50: Paving a Way Disabled in STEM

Maddie Crowley: You're listening to "You First", the Disability Rights Florida podcast. In this episode, we chat with Dr. Anita Marshall about disability inclusion in STEM and her accessible field course.

[background music]

Maddie: Hello, everyone. I'm Maddie.

Keith Casebonne: I'm Keith. We're the hosts of You First.

Today, we have such a great episode for you. Maddie and I had so much fun recording this. We talked with guest, Dr. Anita Marshall, about her program GeoSPACE.

GeoSPACE's mission is to create an accessible planetary geoscience field course and mentoring program to increase the success of students from traditionally marginalized and underserved identities, especially students with disabilities, in transitioning from undergraduate to graduate programs and into careers in the geosciences.

Maddie: It was such a cool interview. Anita herself identifies as disabled and talks about her experience in STEM, in college and pursuing higher education, and how that really drastically changed for her when she was in a near fatal car accident around the time that she was in college.

She then realized how ableist and inaccessible higher education really is, both experiencing it right before her accident as a non-disabled student and then becoming disabled from that accident and attending school after. She really wanted to change that experience for other students.

Keith: It's such a unique perspective she has. She's also the Executive Director of the International Association for Geoscience Diversity, which works to make the geosciences more accessible and inclusive for people with disabilities all around the world. Her work is just really exciting. It's really important. We were just very pleased to give her space to it here on the podcast.

Maddie: Listen, for people that are about to check out, saying, "Oh, I don't like STEM" or...

Keith: [laughs]

Maddie: ..."Oh, I don't like geology," I have never been a STEM person, but after hearing this program, honestly, we were both like, "I want to go."

Keith: This sounds like fun.

Maddie: Suddenly, I love science.

Keith: [laughs]

Maddie: It really was such a cool interview. She's doing such good work. I think no matter what field you're in or find interesting, there's going to be something you can take away and apply to your own life from this conversation.

Keith: Yeah, without a doubt. Let's get to it. Here's our interview with Anita. Hi, Anita. Thanks so much for being our guest today. Let's just start off. If you can, tell us a little bit about yourself and your background and what brought to this point.

Dr. Anita Marshall: Thanks for having me. My name is Anita Marshall. I am a lecturer at the University of Florida in the Department of Geosciences. My pronouns are she/her. I am a very fair-skinned woman with long, dark blonde hair.

I'm wearing my IAGD shirt today, representing the International Association for Geoscience Diversity, with our little wheelie guy with his caving headlamp, noting geologists with disabilities in the geosciences. I'm really happy to be here and really happy to chat.

Maddie: Thank you so much for being on the podcast today. Keith and I looked into your work before chatting with you. We're really excited to learn more about how you came to be within this space and pave your own lane in geosciences.

Could you tell us a bit about how you've created your own space in geosciences? Maybe share a story for those who don't know your work for folks with disabilities within STEM and within geosciences and what made you realize that you needed to create a space that better centered the needs of folks with disabilities.

Dr. Marshall: I started out my geoscience career with no disabilities. One of the big selling points of the geosciences for undergrad students is often the adventure angle of going out into the wilderness and doing really cool field studies in the middle of nowhere and hiking up mountains and doing all these physically challenging and adventurous things, which I was very into as an undergrad.

When I continued to graduate school, right when I was about to finish my master's degree, I was in a really serious car accident. I almost died a couple times. I had major reconstructive surgery. I spent a year in a wheelchair.

In fact, I continued to have surgery and rehab up until two years ago. I had my seventh reconstructive surgery on my legs. Every time I think, "Surely we've done the last surgery," something else pops up.

[laughter]

Dr. Marshall: What I realized when I came back to school after the accident, when I decided I wanted my PhD, it was a very different experience navigating the geosciences as someone with a disability than it was as an able-bodied student.

It wasn't just the physical challenges. It wasn't just that we tended to go to really inaccessible places and really grueling schedules. It was the stigma, the idea that if you didn't fit this mold of a super-athletic mountain climber who runs marathons on the weekends, if you didn't fit that mold, somehow you weren't a real geologist.

That part bothered me more than just about anything, this idea that...In big ways and small ways, I started seeing what I never saw in undergrad because I wasn't attuned to it, which was how we, at every stage, tell people with disabilities, either very up front or in subtle ways, that they don't belong.

I even started thinking back in my undergrad career and some of the field trips and some of the ways that we would talk about people that couldn't keep up and that sort of thing. I was like, "Oh my God. It was there the whole time." I just didn't notice it.

What I realized during my PhD was that I felt really alone and really isolated. Then I started thinking about the fact that I couldn't be the only one. Surely, I'm not the only person who's going through this.

I started looking into it. Shockingly little had been done to research the experience of people with disabilities in the geosciences or in science in general. I realized there was a huge need for this work.

I started meeting other people with disabilities who had similar challenges. We basically decided this wasn't OK and that somebody needs to do something about it. Why not us? It put me on a whole new path.

Originally, I was doing a volcano science, volcano geophysics, and moved into the path I'm on now, accessibility and inclusion and researching the experience of disability inside the geosciences. I'm much happier on this path, so that's good.

Keith: That's great. It's a very interesting story and one that I feel like...We've talked to other people in the academic space who are trying to work to make research itself accessible. It's sad how little has been done until maybe just really recently.

It's, unfortunately, not surprising to hear, but it's great to meet people who have discovered that this is something that needs to be looked into and worked on. You don't just research it. You put it into actual practice. Let's talk a little bit about the inaccessibility of it.

On your website, you state that your primary research area is geoscience education, specifically academic and social engagement in geoscience learning environments and the barriers to participation for underserved groups in STEM. How is geoscience currently largely inaccessible for students and practitioners, especially those with disabilities?

Dr. Marshall: A lot of geoscience disciplines lean very heavily on experiential learning. That's learning activities that happen outside of the classroom. Anytime you move outside of the classroom, you move into what I call the danger zone, in terms of accessibility and potential exclusion.

We have certain mechanisms in place. They're flawed and not great, but we have certain mechanisms in place for accommodations in the classroom. There are things that professors expect to be requested. There's definitely varied degrees of compliance and willingness, but there's a system in place.

When you move outside of the classroom, you move into the Wild West, where a lot of bets are off in terms of willingness to accommodate. Laboratory spaces are hugely challenging. Very few lab spaces are accommodating people with disabilities.

A lot of times, students with disabilities are basically told that they're just not allowed in the lab for safety reasons, which just really grates on me. Even just on campus in labs is a problem.

In the geosciences, we do a lot of our experiential learning off campus entirely. We get out to go see geology where the geology is the best. Those trips are often extremely inaccessible because not only are you moving students out of that classroom setting, which they may have learned to navigate, you're moving them completely out of any of their support systems.

You've moved them off campus, especially if it's an overnight trip out of their homes away from their support networks, out of their routine. It's very fraught with potential issues when you move into these experiential learning spaces.

Unfortunately, rather than work with students who have disabilities or needs beyond what they're used to accommodating, most of us will just tell students they can't go.

Again, they'll use the safety thing, they'll say, "Oh, well, it's just not safe to take someone with a disability in the field," or they'll lead on, "Well, I'm sure the liability issues would be just too much." They'll use whatever excuse they can to get out of that.

Keith: At the detriment to their learning.

Dr. Marshall: At the detriment to their learning. If you're teaching your students things out in the field that you're not covering in the classroom, then those students aren't only missing out on the formative social engagement and those networks that they're building with their peers.

They're also missing out on content. They're being shortchanged across multiple areas of their schooling. Then when they go to get a job, their CV just does not look as good as everybody else's. They're immediately put in that disadvantaged position because they weren't offered the same opportunities, the same networks, the same growth that the other students were offered.

Just the whole way we structure this and the whole way we handle it often puts them at a serious disadvantage their entire career. Basically, start STEM from a behind position right out of the gate.

Maddie: I'm stunned and also thinking about just the parallels with other STEM degrees and other degrees that folks go to get in school and how much college and higher ed is what you learn about in the classroom, sure, but everything you also learn outside the classroom and those experiences outside the classroom that really basically determine how you're going to do once you graduate.

I think people don't think about that as much, especially people without disabilities because they can opt in, like you're saying to do extracurricular work or internships or jobs or anything that can boost their CV. Whereas people with disabilities have to weigh accessibility and what options are out there for them.

Then something else that was resonating with me as you were talking, I don't know if you're familiar with the work of disabled hikers in the northwest. A lot of their work is just posing the question of who is nature for, who can access nature.

I just hear similar themes of privilege within this space of saying that, "Oh, well, folks disabilities just aren't welcome here." Your work is incredibly important to be able to combat some of those stigmas and stereotypes within geosciences. We're excited to chat a little bit more about what you have created and some of the groups that you are involved with to combat those things.

Could you tell us a little bit more once now that you've played the groundwork of what the experience for most students with disabilities unfortunately is and what you've done to create an accessible program, the GeoSPACE program, and your other involvement with international disability and diversity group for folks who are interested in geosciences?

Can you talk a little bit about those programs and how you use your own disability and maybe the experiences of other folks disabilities as a framework to create that space?

Dr. Marshall: One of the things that I am most proud of in the GeoSPACE program, so the GeoSPACE program is a two-week accessible field course. We run it in Arizona in the early summer. It has multiple participation options, including fully virtual.

One of the things we realized early on is we really couldn't call it an accessible field course if we didn't have a virtual option because many people just can't be gone from their homes for two weeks.

The GeoSPACE came about with me, and so my disabled geo friends talking about field camp and how important it is how formative it is for students and how very few students with disabilities ever get that experience.

We were thinking, "What if, rather than..." because there'd been a lot of talk about, "Well, maybe we could retrofit somebody's geo camp," right? Have somebody who's really interested in working with us and we could modify their field camp to be more accessible.

Then we realized that we were looking at this wrong, because if we were going to make true systemic change, if we were really going to dismantle barriers, we wouldn't work inside a system that was built on inherently ableist principles.

What we wanted to do was build our own field camp from the ground-up. What if a bunch of disabled folks got together and decided how we would teach and learn in the field. If we could do it our way, how would we do it?

We had these incredibly fun brainstorming sessions where we just started cooking up these ideas. "Oh, well, I would want a drone because I can't get very far from the road," or "I wouldn't make sure we had plenty of breaks," because I get tired and so we just started throwing all of our ideas out there.

We pulled this idea together and paste it to the National Science Foundation. They liked the idea and gave us money to get this off the ground. This GeoSPACE was built by and for people with disabilities.

One of the things that is actually challenging for some of our students to wrap their heads around, they are so used to being the only one in the group that has needs that are different than everyone else. They're always used to being the odd person out or the one constantly having to advocate to professors that just don't get it.

Our field course is very different. There's a bunch of people with disabilities all together. We can build these cohorts that encourage each other and build each other up and help support each other in a way that most field situations, where you're the only one out there who may be struggling, that's not going to happen.

What really blows their minds is that when they approach us, as the instructors, we get it in a way that most instructors don't get it because we are dealing with the same stuff at the same time. I tell people a lot, often, they focus on the student experience at GeoSPACE and all that and how it really gives students with disabilities the opportunity to do field work. That's true. It's awesome.

A lot of times, what they miss is that we built GeoSPACE so that we could be field instructors, so that we could do this work. It's just as important to those of us teaching the course that it's given us a way to teach field science from a disabled lens. It's so amazing to get to do that and to show the students that there's a path for them.

There's something very powerful about going out there with working professionals who also have disabilities. They're higher up the career chain than you and thriving. That's important for them to see as well.

Maddie: I love that. I love that so much. I love listening to disabled people get excited about their work. As a person with a variety of invisible disabilities, I resonate a lot with what you're saying and the need to advocate for yourself and almost this shock and confusion that I've felt in the past, where it's "Oh, this is accessible. Oh, there's other disabled people. This is awesome."

I love that giddiness and joy that everybody gets to experience with the program. Just the power of creating a project or a space that's built with accessibility in mind and the joy that brings, I'm sure is something that y'all really get to relish in and appreciate.

If we could home in on some of those accessibility features, I know you talked about, briefly, having it be virtual, having drones and things like that. Could you speak a little bit more about what some of the considerations are and how it's been built to be accessible for a wide variety of folks?

Dr. Marshall: Yeah. The beauty of starting this from the ground up is that we could build this exactly how we wanted. That started with picking the sites and lining out the schedule. There are a number of things that make traditional field courses inaccessible.

One of them is the fact that many times, you're very far away from restrooms, like a flush toilet, for a long time. There are a lot of people with a lot of different kinds of disabilities that just doesn't work for.

After we went out and we picked the sites that we wanted to go to, we narrowed them down further based on the bathroom situation. How far away are we from a flush toilet? How long can we be out here, realistically, before we're going to have to get back to some place that has facilities?

Building in time to do what you need to do without rushing and building in break time. This is another thing that used to just wear me out, trying to go on other field trips, was everybody was in such a hurry. Go go go. Do this. Go there. See that. Get back in the van. Drive over here. Do that. Jump back in.

There was like no time to rest. There was no time to process. There was no time to just breathe and take in where you were or what you were doing. We are very intentional with our schedule. We build in breaks.

We build in time in the schedule for things I call...There's lines in the schedule that say, "Ogle the scenery." This is your chance to just take a minute, take it in. Nature is amazing. We're out here in these incredible places. I want you guys to have time to experience it however you want. Building in time to be people in the field is one of the ways that our field course is very accessible.

A lot of it has to do with how much effort we put into building a community or a culture of care. Right off the bat, in the syllabus, in the materials they get before the course, we start lining this out, that in this field course we are not about rugged individualism. We are not about soldiering through.

You need to tell people what you need so that we can make this work for you. If you see somebody struggling, you offer to help. If you're struggling, you need to be willing to ask for help. We're trying to build a community where we support and uplift each other. This is not a competition. This is not a race. We're all going to do this together.

The whole point of the way we build these activities in the field is that you have to figure out not just what you want to do for the science we're getting done but how you're going to make sure that everybody in your group is able to engage in what you're planning to do. Everybody has a meaningful role. Everybody's engaged.

We've built that into the way that they have to approach project management in the field. There's the science part. There's the accessibility part. It all has to work together to get the job done. That's a really big part of it. It's basically just the philosophy in which we run the course.

The planetary geology angle is really fun angle, which I came upon...I started knocking this idea around when I was still a grad student. I sat in on some talk from a guy at NASA. They were talking about how they plan missions where people are being sent instead of just robots or whatever and how they, especially during the Apollo era, how they planned out those missions.

I realized there was so much overlap between how NASA plans crewed missions and the philosophy that I was taking as a disabled person in the field because NASA comes at their science with the fundamental idea that every outcrop, every rock, everything they want to see is inaccessible.

That's where they start. They know it's all inaccessible, and so they build the entire program around figuring out how to get the science done, even in the most inaccessible of places. I was like, "Oh my God, this is the perfect framework because that's what we're trying to do."

That's why GeoSPACE took on this planetary theme. The students eat this up. They love the planetary theme because we roll it into the accessibility theme. We'll have a certain number of...a set amount of time at a field site, primarily because we're all going to fatigue, including me. If you want me to have enough energy to drive this van back home, we're going to have to leave here pretty soon.

I'll say things like, "All right, astronauts. You've got two hours of oxygen before you've got to get back in the vehicle." They're just like, "Roger." We did roll it in. We make it part of the theme. Our virtual students, we call them Mission Control.

They are our eyes in the sky. They analyze everything by satellite and remote sensing data. They have incredible observations that we can never make on the ground. By analyzing what we can see from space, they help us frame what we're going to do in the field. They give us Mission Control briefings.

Then, they tell us what they can see, but they also tell us what they can't see or what they can't figure out from the air. Working together with the students that are there in person, they figure out their mission for the day, their science targets, as NASA calls it. Then, they figure out how they're going to accomplish those science targets for the day together.

Everybody is a big part of this team. We've built it very much like a NASA mission with Mission Control and on the ground working together to figure out how to get the science done.

Maddie: That is so cool.

Keith: That's amazing. That's so clever.

Maddie: I also have been thinking about research done by non-disabled people sometimes is just objectively bad research in my academic study. It's, by and large, done by non-disabled people can just miss so much.

Dr. Marshall: That's true.

Maddie: Just listening to you chat about the different angles of what you're observing and not able to observe, you're piecing together pieces of things that people on these other trips that you were talking about before, these inaccessible trips where you're like, "You're missing so much. You're missing so much data, so much to witness, and experience."

I just wanted to highlight that because that goes beyond geoscience. That's just any research, any academia, and beyond academia, also.

Just so cool. I love that frame. I'll stop talking so Keith can jump in.

Dr. Marshall: I obviously think one of the things that anybody can do to make their event or activity more accessible is just slow it down. Why does everything have to happen so fast? Just slow it down. It will make it much more accessible.

Keith: It's such a simple premise, but incredibly impactful for those that need to take an extra break here or there, or take a few extra minutes. Honestly, it's mind-blowing. To hear how you built it from the ground up. I had no idea about NASA's approach. I think that's just...

That, in and of itself, is fascinating. Then how you took that and built around it. It's just amazing. I would imagine that the students just eat it up and love it to death.

Dr. Marshall: They love it.

Keith: I can imagine. I wish other projects...I just wish there was more things like that people could partake in. I think this is so fascinating.

Obviously, you're starting this within the University of Florida, but I'm assuming that as the executive director of the International Association for Geoscience Diversity, which we'll, by the way, we'll have links in the show notes to Anita's website, to the GeoSPACE website, and also the website for IAGD.

I'm assuming, as executive director of that, which is a 501(c)(3) nonprofit dedicated to creating access and inclusion for students, faculty, and professionals with disabilities in the geosciences, you're looking to grow this globally, as much as possible, and spread these groundbreaking ideas that started here in Florida across programs around the world.

-

Dr. Marshall: Yeah, that's exactly right. In fact, one of the big points of GeoSPACE, beyond the fact that we just wanted to build a program that we could run and enjoy as people with disabilities, was we want people to copy us. We want this idea to spread.

I once had an academic tut at me because I talk to people like you guys about my ideas. I'm very open about how we built this and how we run it. They're like, "Aren't you worried somebody's going to steal your ideas?"

I said, "I want them to. That's the entire point. I hope they do. Nothing would make me happier. Steal away!" It is funny. Again, we go back to that ableist framework and how sometimes they just don't understand. That's not the point of this. It's just not the point of it. The point is that we want this idea to spread.

We've done two years of the field course. Now, we're moving into this phase where we are going to push into the broader dissemination. How do we get these ideas to catch on and to spread to other places?

We already have...There are already two other universities that are creating field courses that are basically, as I say, modeled on GeoSPACE. It's already starting.

What we're looking at is, how do we really build that dissemination to where we can support programs that are wanting to incorporate these ideas and bring them in. Especially, there's a lot of interest in the technology that we use, which I haven't talked about at all.

We use some pretty slick communication technology to keep our virtual students closely involved with what we do in the field. Livestreaming. We set up our own WiFi networks in the fields so students can talk across the field site to each other.

There's a lot of interest in that. We're looking at, can we create training programs? How do we help get people running on this? The IEGB has a lending library full of these tech tools. If there are programs that are very interested in doing this but they just can't foot the bill for the tech, they can borrow ours.

We have a set of our gear that's just for loaning out. We're trying to think about the potential barriers to implementation and how we can address those. Is it training? Is it tools?

We're trying to get rid of any excuses to do better and trying to make these ideas as easily incorporated into your program as possible.

Keith: I'm going to turn it over to Maddie in a second, but I have to comment that the whole idea of accessibility is to broaden access. Why, then, would you not want to share it with more people and broaden access to this idea? It's counter to...I don't know. I don't understand.

Dr. Marshall: It's academia. It's academia. The whole idea that your ideas are yours and you must hold onto them, and publish them in your papers, and make sure that your name is on all of it. It's just academia. Again...

Keith: It's a culture.

Dr. Marshall: It's a culture and, in a lot of ways, it's very challenging. Not just as a student with a disability, but coming from the indigenous lens as a member of the Choctaw Nation, this whole individualism thing is just not how we roll.

It can be really challenging sometimes because my philosophy, as a disabled person, as a person with indigenous heritage, it just doesn't fit with my worldview. It can be really challenging to navigate, but it's also very fun to watch the eyebrow raising and looks of academics who just don't get this.

That's great, too, but I will say there's a lot of interest in what we're doing. Last summer, I ran a workshop on accessibility in the field. Myself and Chris Atchison, who was the original founder of the IGB, has run this workshop in years before. We're lucky if we get a handful of people at these workshops.

Last summer when I ran it, the room was packed. It was packed. People were really interested in what we were doing. That's really great to see. We're really hoping we can capitalize on that momentum and get people moving from interested to actually employing these ideas in their field courses.

Maddie: I hold a similar worldview and perspective on the work that I do and the benefit of collective knowledge, and knowledge sharing, an anti-academic lens.

I think it's so funny to me, just to hear a similar experience that you're sharing and how the idea of sharing knowledge and not holding it and possessing knowledge is something everybody should take into account, no matter what work they do.

Whether you work in an organization, or you work in a coalition, or whatever it may be. I think everybody can benefit from detaching themselves a bit from that frame.

I wanted to reference having accessible technology. I think with COVID and how people are still rightfully uncomfortable to go back into conference settings...

People are offering both in-person and virtual ability to participate in conferences, but the folks that are virtual, there is sometimes, "Oh, I didn't catch what you were saying because you weren't close to a mic," or the PowerPoint isn't showing up on my screen," etc.

That's because that part of the people that are participating in the conference on the virtual side, their experience isn't being centered. The in-person experience is now being centered.

I love to hear what you shared and how intentional y'all were to ensure that the people that were participating virtually had a slightly different but just as valuable time participating.

Dr. Marshall: See, this is a really great question that most of the able-bodied people I talk to don't ask because they don't care about the virtual experience. This is a great question. It's hard. I would be lying if I said this was not real hard to pull off.

Part of what we do is we decided right away we needed dedicated faculty that only worked with the virtual students. Trying to split my attention and my time, constantly, between the two groups and keep all the logistics going and do all the field stuff, it's not possible. You just can't wear that many hats at once.

We have a dedicated faculty, and teaching assistant for the virtual group that works with that group exclusively. The other thing we do is we are constantly adapting based on the feedback from our virtual students.

Every cohort's a little unique. Every group is dealing with a different scheduling challenge or time zone issues or caregiving responsibilities. We have to adapt depending on who we've got participating. At the start and the end of the day, everybody is together in one meeting, our virtual students and our in-person students. We start them in the day together.

Then, during the day if we're in a location that has cell service, we will bring them in real time to what we're doing in the field. They'll have real-time access through livestreaming, our social media. We use the Discord channel to keep everybody talking to each other. That happens in real time as often as we can.

One of the things we did is try to minimize the number of sites where we went out of cellphone range. It can't always happen but we try to minimize it. At the sites where we do go out of cellphone range, we will record little video snippets for them.

As soon as we get in cellphone range, we upload those. Then they can bring the discussion back over to Discord as soon as they're watching catchup. Then the interaction starts back up again.

We plan for that, again, just like the NASA team. For example, the Perseverance mission on Mars, depending on where Mars is and where Earth is, they'll lose contact for hours at a stretch, so they plan that into their day.

They know they've got the rover working on what it's supposed to be working on. They know what they're supposed to be working on. Then when they come back into contact, they all catch up, and they all get back on the same page. We use the same approach with GeoSPACE.

There are times when our virtual students tell us, "This isn't working for me," or "I need this and this." We do our best to try to adapt to that as best we can within the confines of the moving roller coaster that is a field course.

The other thing, this is the interesting thing, is the first year we ran the course, our in-person students were fussing about how the virtual students were getting exposure to skill sets that they weren't.

Our in-person students were feeling a little left out because our virtual students were getting to learn things like how to process satellite data and analyze a rock unit from space. They're like, "We're not getting to learn that. That's really cool." I was like, "It is really cool." [laughs]

That's the thing, is these are different experiences that work together. We did bring in more of the remote students than this year for our in-person cohort. They really wanted to learn, so we build a day in. They don't get as deep into it as our virtual students, but they still get to dip their toes in it, if they want, and learn some of those skills.

It was very funny to me to watch the in-person students fuss about the virtual students getting to do something that they didn't get to do.

We even do things like...One of the important things to me that's often missing from using technology to engage students in the field like this, bringing them in with live streams and that sort of thing, is that they're still missing that authentic engagement with the landscape, where they're collecting their own data, they're collecting their own observations.

They're still reliant on somebody else and what they're getting fed and there's a problem there, where they're still not getting that authentic engagement. The way we build GeoSPACE is we're always thinking of ways to get our virtual students that authentic engagement with data collection, with site analysis.

At the end, where we start having them take more control over the field project, our virtual students can design the flight plan for the drone. They do the site plan, tell us where it needs to fly, what it needs to look at. Then we just execute it. We just hit go in the field.

They are authentically controlling then how they're collecting that data. I think that's really important. Then we use that. We let them build 3D models and all kinds of cool stuff with the drone data.

We will have them work with a partner in the field wearing a GoPro and doing live stream so that basically, as their little...We call these little human rovers. Tell them where to go. Tell them what to pick up. Tell them what to send you information on. We're constantly thinking about ways to authentically engaged our virtual students in what's going on in the field.

Maddie: That's awesome. That's so cool. I'm so excited by just this conversation. I want to go. [laughs]

Keith: I was just going to say the same thing. I was going to ask a wrap-up question and start by saying, "Other than getting someone who hasn't been in school for 25 years a way to go join this thing, how can listeners get more involved? How can they support your work?" It sounds like this being spread internationally. That's great. How can more people get involved?

Dr. Marshall: I would love to invite folks to join in GeoSPACE. We are looking at, in our future projects, maybe building in some observer roles. There's a big interest in that, people that maybe aren't students but still want to get in on this, which I think would be great for building community. Maybe in the future, we can do that.

All of these programs are run either on grant money or on donations. GeoSPACE is currently grant-funded, but all the other, smaller field courses and field trips and opportunities that the IAGD offers is completely donor-supported.

We offer scholarships for students with disabilities to use them whatever they want. They don't have to use it to pay for courses. We all know it is really expensive to be a disabled person. There's a lot of extra costs. Basically, here's some money. Do whatever you need to survive the semester.

We have those scholarships. We run smaller accessible field trips which are open to everybody, usually in the fall, in conjunction with one of our big conferences. They're an amazing opportunity to build those networks and disseminate our ideas on how we run our field courses.

Those are all free to participants because we fundraise. We get people that donate money so that people don't have to pay to go on these field trips with us and get these amazing experiences.

There's all kinds of information on how you can get involved with the IAGD. If you can't afford donations, we also need tons of volunteers. This work does not do itself. Volunteers, always great. Just getting the word out there about what we're doing, that's super-helpful too.

We're out here. We're doing this thing. If you want to support, there's definitely ways you can do that. Tell UF you like GeoSPACE so we can keep doing it. [laughs]

Keith: There you go. You all have your marching orders now, listeners. Make sure you...

Dr. Marshall: [laughs]

Keith: That's wonderful. This has just been an incredible conversation, even better than I expected. We were really looking forward to this in the first place. So cool. Thank you so much for discussing all this with us today and sharing all this. It's fascinating.

I'm so glad to see at least portions of academia moving in this direction and hoping it continues to spread and just be accessible and available to more people.

Dr. Marshall: We're getting there. It's slow progress, but I can definitely see progress. We're getting there.

Keith: Thanks so much. We really appreciate the conversation.

Dr. Marshall: Thank you so much for having me. This was fun.

Maddie: Thanks, Anita, for being on today's show. It was so fun to have you on and gush with you about accessibility and inclusion. Literally nothing gets me more amped up and giddy and excited than universal accessibility.

Keith: Agreed. It's so fun to nerd out on this stuff with other people who love it too. For those interested in learning more about Anita's work and programs, check out the show notes for links and information.

Maddie: Stay tuned for our next podcast. We release new episodes every other Thursday. Those will be available on all streaming platforms. If you can, please take a moment to like, rate, subscribe, share. Wherever you are, please help us out and share the podcast. We want disability issues and intersecting topics to be better known and discussed. This will definitely help us to do so.

Keith: It sure will. You can also follow us on Disability Rights Florida's social media for episode clips of this episode and others. For more information and the episode's transcript, visit disabilityrightsflorida.org/podcast.

[background music]

Announcer: The "You First" podcast is produced by Disability Rights Florida, a not-for-profit corporation working to protect and advance the rights of Floridians with disabilities through advocacy and education. If you or a family member has a disability and feel that your rights have been violated in any way, please contact Disability Rights Florida.

You can learn more about the services we provide, explore a vast array of resources on a variety of disability-related topics, and complete an online intake on our website at disabilityrightsflorida.org. You can also call us at 1-800-342-0823. Thank you for listening to You First, the Disability Rights Florida podcast.

[music]