

## Alma Schrage's SWS Transcript

**Stephanie [00.08]:**

Hello, I'm Stephanie Hakulin. Today on STEM Workforce Stories we'll meet Alma Schrage, a Naturalist, who will clue us in to a little-known fact....

**Alma [00.29]:**

So, when I was at UC Berkeley and I was studying bird song... Yeah, you may ask how Deaf people can study bird song.

**Stephanie [00.49]:**

We'll learn this, and a whole lot more, today - on STEM Workforce Stories...

**Alma [01.06]:**

So, my name is Alma Schrage. I'm deaf. I was born deaf. My family is all hearing. I grew up speaking. I grew up in Chicago. I went to California for undergrad.

And I worked in California for about four years. After that, I decided to move back to Illinois. Specifically, I wanted to go to grad school here. And because I have family here, I still felt connected. I identify as deaf, and I identify as disabled. I also have ADHD.

**Lily [02.03]**

So then how did you learn to sign? When did you start learning ASL?

**Alma [02.10]:**

When I moved to California for undergrad. I went to University of California, Berkeley. At that time they didn't offer any ASL classes. But in my third year there, they finally started offering ASL, so I decided to take advantage of that.

**Lily [02.36]:**

So next I just wanted to ask, how did you get into that Natural History, doing that surveying?

**Alma [02.47]:**

So growing up, I was always interested in nature, hiking, backpacking. Growing up, I knew I wanted to do either biology, work as a biologist, or I wanted to become an artist.

But the research, I felt, was always really interesting and easy to do. I fell right into it. So, I started doing research every day out in the fields in grad school. So I'm working right now towards my master's in science. Focusing on specifically the natural resources and environmental sciences.

**Lily [04:01]**

Where do you currently work?

**Alma [04.04]:**

I work for Illinois Natural History Survey. I've been working there for the past two years. I'm also a grad student still.

**Lily [04.26]:**

Are you going to the University of Illinois?

**Alma [04.31]:**

Yeah, actually I work and I study with the University of Illinois.

**Lily [04.40]:**

What does your normal workday look like? Throughout the day what are your tasks?

**Alma [04.46]:**

So during the winter time, I work primarily on my laptop doing coding and analysis. During the spring and the summer, things are a little bit different. I typically do my field work at that time. So specifically, I do biological research outside when I'm doing my fieldwork. I study bumblebees. My sign for bumblebees is this. In the past I studied birds, but I have moved on to study bees.

**Lily [05.31]:**

What type of equipment do you use when you're doing your research on bumblebees?

**Alma [05.37]:**

When I'm doing my fieldwork, I use a variety of different equipment like a net in order to catch the bumblebee. Once I catch the bumblebees, I record a lot of different data in regards to them.

So this program that I use is called GIS. It's for mapping.

So right now I'm showing four different fields on the satellite image. They're my field sites. This is where I look for bumblebees. So I'm looking for a specific bumblebee. It's called the rusty patched bumblebee.

So when I was at UC Berkeley and I was studying bird song... Yeah, you may ask how Deaf people can study bird song. So, when you research bird songs you can get something like that. So what I do, right, I record a bird song and I look at my laptop, and it shows me the bird song in frequency. It's the same approach as hearing researchers do. When they're studying birds and bird song, they look at these frequency patterns on their computer. I use my smartphone. It has an app that shows the frequency of the Birdsong. So when I'm out and about in my field and I see a bird, I notice it may be singing. So I pull out my app and I can record that song and then later identify it.

So this technology records sound. So I'll put it next to flowers, for example, and record what bumblebees are coming to that specific flower... I will then eventually build a frequency chart similar to the Birdsong frequency chart.

I basically traced and back lit those sound waves. And then I projected those sound waves onto a wall... I had a lot of fun with sound in college.

In Illinois, we have roughly 10 different species of bumblebees. And we have about 500 native bees. But in general America, we have roughly 4,000 species of bees.

**Lily [09.14]:**

Thank you for sharing that. That's actually a very fun fact for me, something for me to learn in relation to bees, bumblebees, native bees. I had no idea. I'm curious what sparked your interest?

**Alma [09.32]:**

Yeah, it's definitely cool research. That's an interesting story how I got into it. When I was growing up, I was obsessed with birds. I loved watching them, observing them. I knew that I wanted to work with birds when I got older. So when I went to my undergrad, I started studying birds. And I know that my first job after graduation included fieldwork where I studied both birds and bumblebees, so that's how I got exposed to bumblebees.

I really liked working with this group of researchers. It was a non-for-profit organization that I joined. So I went and worked with them every year for about four years.

**Lily [10.30]:**

I'm curious, what has been your personal and professional challenges that you faced while you were attending UC Berkeley?

**Alma [10.38]:**

I had a mainstream education, meaning I was the only deaf person in my school. So my parents were actually the first to go to college in their respective families. The two of them really realized how valuable education is and they wanted me to also go to college. Growing up they would always tell me that's what I was going to do after I graduated high school.

I went to college undergrad at UC Berkeley in California and I studied two fields, biology and art. I eventually graduated and with a passion for biology, I decided to work at that job that included fieldwork. Fieldwork is critical for biologist, and I definitely wanted to do more of that kind of work so I stayed there for about four years.

When I applied to Berkeley, I had art skills and writing skills that were very strong. Berkeley was very difficult though to get through. But because of my experience growing up in the mainstream program, I wasn't too culture shocked. I had experienced feeling alone, isolated and not being understood. That was the normal day to day for me.

**Lily [12.20]:**

How has school made accommodations with you currently with the pandemic?

**Alma [12.30]:**

That's a really interesting question. First of all, most of my work nowadays is remote. When I am doing fieldwork though, it is quite easy to socially distance from my research partners. So I'm pretty fortunate that my work wasn't too affected by the pandemic.

Now in terms of communication, it's been hard going. I grew up lip reading, so masks are a real barrier. I can't understand anything that anyone says. So I decided to start using a smartphone app in order to ask people to speak into it so I could read the transcription. If I went to a grocery store, I went to the pharmacy, I would use this app.

It's interesting when the pandemic occurred, I think deaf people in general experience a lot of hardships and barriers... People experienced quite a lot of fatigue, the deaf people specifically, which is pretty normal as a deaf person going through the world. But when the pandemic occurred, I think people that could hear actually started understanding how difficult it is to communicate with a mask on.

**Lily [14.06]:**

What advice would you say to your younger self? I'm thinking of middle school Alma, high school Alma, or just high school students, middle school students that are deaf and maybe they are motivated to get into the stem field. They're into engineering, technology, biology. What advice would you give them?

**Alma [14.35]:**

Worry less about your fluency in ASL and English. I remember I grew up speaking, but I always worried about my fluency and sign language and people would have to be patient with me while learning.

Oh, be visible with your disability and your deafness. Don't be ashamed of it. Don't feel like it is a stigma. Work on de-stigmatizing it for yourself. No one's going to give you the things you need if you don't ask.

And don't be afraid to meet people that are different from you. Yeah... And be prepared to make a lot of mistakes. Don't be afraid to make mistakes either. You learn from your mistakes. The mistake itself isn't equally as important.

Where I am today, it took a lot of patience and grit and I'm stronger for it... And now I feel confident... So good luck.

**Lily [16.02]:**

So many of the things that you've said they ring very true to me. Self-advocacy, stubbornness, the 'I can do it' attitude, Self-confidence, absolutely these are important things that you mentioned that you point out. Not giving up, making mistakes is okay, we learn from them. This is good stuff for those that maybe want to get into STEM. Good advice. Thank you so much for sharing. I have enjoyed every second of it.

**Alma [16.36]:**



Thank you...

**Stephanie [16.43]:**

Thank **you**, Alma. And thank you to everyone who joined us today. Alma's career journey is just one of many amazing stories. You can check out more of them - on STEM Workforce Stories.

I'm Stephanie Hakulin. See you next time.