**ORISE FEATURECAST**

**Mariana Sorroza, National Nuclear Security Administration**

**Minority Serving Institutions Internship Program**

00:00.00

Michaelholtz

Welcome to the ORISE Featurecast. As ever it's me your host Michael Holtz from the communications and marketing department at the Oak Ridge Institute for Science and Education and today, as I love to see when it comes to this podcast, I'm talking to you an ORISE research program participant. I'm speaking with Mariana Sorroza from the National Nuclear Security Administration Minority Serving Institution Internship Program. Mariana welcome to the podcast I'm so glad to have you and if you would um, just give me a little bit of a background on.

01:19.46

Mariana Sorroza

Thank you! I'm so excited to be here today.

01:29.98

michaelholtz

Who you are and specifically what you're doing in your internship program.

01:32.41

Mariana Sorroza

Yes, of course I am currently studying at the University Of Central Florida I am pursuing my undergraduate degree I am double majoring in mechanical engineering and international and global studies with minors in math and leadership studies and. Ah, certificate in teaching english as foreign language I have been part of the and msiap program for about a year and a half now I was with the office of nuclear smuggling detection and deterrence for 1 year and this past June I so transitioned to support the office of radiological security. Most of the time my internship has been remote but over the summer I had the blessing of being able to live in Washington Dc so that I could work in person and throughout both the years I have had experience doing research both independently and with. The offices that I have supported.

02:30.48

michaelholtz

Awesome! So talk a little bit about um the kind of research that you have been involved in and and how that's been going for you.

02:38.54

Mariana Sorroza

Yeah, so last year I did my honor's undergraduate thesis at the University Of Central Florida it was focused on soft skills and stem as a student that is double majoring in something that is more stem oriented and something that is more policy oriented. I think that it's very important for those that are working in stem industries to also have very strong soft skills I think that it's very important a lot of the things that. For example, we design as engineers if not well everything that we design is meant to help other people or other animals. Plans, but it's designed to help others. So I think that it's really important to be able to have good skills such as communicate effectively empathy so that we're able to design things that serve those that were designing them for the best. So I conducted research with. The office of nuclear smuggling detection and deterrence. They allowed me to collect information with them with people from the national laboratories as well and I had 2 components to that research it was 1 collecting information from industry and and 1 from students at universities. So I compared how students in stem majors rated themselves on their soft skills and then I compared how those in industry and including people within doe rated themselves in their soft skills and then they rated whether they.

04:12.40

Mariana Sorroza

Felt like they learned most of their skills at school in their personal life or in the workforce and then they provided suggestions on how people can improve their soft skills. Um across levels including in management and those that are not in management and I presented my research By. Creating a software on power bi that is interactive so people can select the soft skills that they want to focus on to see where the differences are and maybe why the differences are there so that we can work to bridge those skills.

04:44.80

michaelholtz

And Mariana when you're talking about soft skills I know you're talking about communication skills, presentation skills those sorts of things right.

04:55.73

Mariana Sorroza

Yeah, yes, of course So yeah, interpersonal skills. Um, so yeah, in fact, the funny enough. Um I had some people tell me that soft skills is a soft name for research right? But I think that.

05:08.20

michaelholtz

I.

05:11.27

Mariana Sorroza

That is why it was so important to do the research because I don't think there's anything soft right about having soft skills I think that they're very important and very necessary. But yes synonymously you could say interpersonal skills but I name the top skills because I think it's important and I emphasize that.

05:24.80

michaelholtz

Um, okay I.

05:29.59

Mariana Sorroza

There's nothing soft about softscows. They're important and necessary to have So yeah.

05:34.83

michaelholtz

And it's important right for to help people understand like the research that you're doing you need to be able to present it in a way that you know an eighth grader can understand what you're talking about right? So um. That plays into it as well.

05:51.82

Mariana Sorroza

Yeah, of course um in my published undergraduate thesis I speak about how during the covid 19 pandemic when it was at its peak. That's an example where those in this time industry that were working on the vaccine and on the exams for covid all of that. It was very important for them to be able to communicate the information properly to the rest of the public because I mean we were all kind of freaking out right? like it was something very unexpected and with a lot of uncertainty can come a lot of fear.

06:16.35

michaelholtz

Right.

06:24.14

Mariana Sorroza

So that's an example where it was really important for people to communicate this information to the larger public in a way that brought more peace rather than chaos and that's an example of where it was really important and I think it's you know, important all the time but that's ah I think a major. Part of our lives where it it was demonstrated that it was really important for people to have those strong soft skills and of course I'm as an engineering student at Ucf I incorporated the aspect of creating a software and power vi so that the results are displayed interactively yeah.

06:54.11

michaelholtz

Um, okay, awesome. Um, so you were. You're a double major in a some stem field and a policy field. Um for you. Which came first and or has has science always been an interest for you or was that something that did policy come first or did they kind of come together at the same time.

07:23.83

Mariana Sorroza

Sure so growing up my dad is an industrial engineer and he used to take my mom my 2 sisters and I to his job sometimes and I always thought that it was the coolest thing to be there I remember there was a robotic arm that would help them to move some.

07:28.90

michaelholtz

Ok, ok.

07:43.56

Mariana Sorroza

Pieces and I was always very amazed by that and just in general very amazed by what I learned on take your child to work day I thought it was fascinating I think that um my sisters were not as interested as I was or as fascinated by everything around us and sometimes people would visit from other. Plants that they have in in Costa Rica for example and I remember my dad would take them out to eat and our whole family would go and I felt like I was sitting with like the precedent of like the world. Super fars like to me it was the coolest thing in the world like sitting by engineers and they were just so smart and. Are so smart in hearing their conversation. So I grew up always kind of thinking I want to be an engineer that 1 came first and funny enough. There's a book named thomas de train and and my classmates in like Kindergarten and first grade they asked me if I wanted to be a train engineer like Thomas De Train

08:32.74

michaelholtz

Um, oh yeah.

08:40.59

Mariana Sorroza

And I knew what engineering was and what they did and you know that they could design things since I was very very young. So I always ah knew that I wanted to be an engineer. There was a point where I started thinking do I Want to be an engineer or a lawyer and now those are very very different right? But um.

08:56.48

michaelholtz

Right? And right.

08:59.78

Mariana Sorroza

I was in a technical high school I graduated in 2020 but for 2 years I was in a machining program that I really enjoyed our our professor. Mr. Kevin Fein was just absolutely great and taught us a lot and it was very hands on and that solidify for me that. I did want to be an engineer but I always had that part of me where I was also interested in like loss and policy and in 2020 I received a grant from the department of state for a program called the congress bunestag vocational youth exchange program to live in Germany for a year

09:36.19

michaelholtz

Um.

09:37.81

Mariana Sorroza

And unfortunately because of the pandemic the in-person component did not happen but we did learn german for a year online and we also got sent to Washington d c twice and met people that were working at the department of state and got to hear from their stories and that's where I learned that international and global studies was a major. And when I heard it and I was described and asked questions I realized that it wasn't that I wanted to be a lawyer I just didn't know that this major existed but I was very interested in learning more about other countries I think that coming from a background where my family is from Mexico and now living in the United States

09:57.49

michaelholtz

Um, um.

10:16.85

Mariana Sorroza

I love celebrating other cultures. So then I started double majoring and I think that um, thankfully with this internship experience. It's the sweet spot where it combines both perfectly and I feel really grateful that I found it because there was a plan where I thought I would have to choose 1 major over the other. Ah, for my career and it's really a blessing to be able to do both in 1 place. Thank yeah.

10:41.12

michaelholtz

That's amazing. Um, and Mariana when you look at I guess what your aspirations are having a stem major and a policy major. What are you? What? what's on the horizon for you. What are you looking to do.

10:54.58

Mariana Sorroza

Yeah I Yeah I think that being a public servant is very important to me and when I used to think lawyer I used to think public servant and now like being in an engineering field and also meeting a lot of people from the national laboratories I.

10:56.48

michaelholtz

Career wise.

11:04.64

michaelholtz

Okay.

11:13.47

Mariana Sorroza

Realize and acknowledge like being an engineer is also being a public servant in a different way like in every career you can be a public servant. It just looks a little different but I I would really love to continue supporting the national nuclear security administration I am very blessed to have gone my internship extended for. This upcoming summer so that will be my third cycle of being in the and msip program and following that I hope to go to graduate school and simultaneously keep supporting the and and essay whether that be through an internship a fellowship or a part-time or a fulltime job I'm not so certain right now.

11:38.35

michaelholtz

Both.

11:50.81

michaelholtz

Of me.

11:52.48

Mariana Sorroza

But I do know that I want to continue supporting and and I say I believe a lot in their mission for nuclear and radioological Security. It feels fulfilling I feel like it it um helps me to because you see the work that you're doing. It's something that not a lot of people know about I didn't know a lot about this before. I came across this internship program. But I think that it's very important work and it has a very meaningful Purpose. So I am hoping to continue supporting these offices. Thank yeah.

12:23.24

michaelholtz

That's wonderful. Um, and I'm glad that your experience has been such that you you want to continue doing that I think but.

12:28.30

Mariana Sorroza

Thank you? Yeah and I think even in terms of like what I learned in my classes versus what I learned at the at my internship. It's really cool to see sometimes I go to class and then I join a meeting for my internship and they're talking about what I just learned or vice versa that I'll hear something at the at a meeting. And then a couple weeks later I learned about it in my classes and it's just really cool how they complement each other I think that it makes both more enjoyable knowing that I can use 1 to help me and the other as well and thankfully everyone is very supportive. Um. Last year my mentors were Kevin Rosti and Michael Timboski and they were just absolutely great. Mike certainly help me a lot too with my research to encourage people from the national laboratories to participate. Usually how I collected information was through a survey. Ah, that was not so interactive a quadric survey or a Google survey but he helped me coordinate a meeting with someone in Floyd and it was a menteeter presentation. So the participants were actually seeing the sort of the answers of the other participants live as we were doing it. So I thought that that was neat because then it was interactive for all of us and I'm very grateful for that and now I have completed my undergraduate thesis but there is research going on all the time at the national laboratories and my mentors now help me to.

13:55.90

Mariana Sorroza

Be exposed to that and to learn about it and to partake so this year I don't have plans to publish anything but I analyze a research that they do at the national laboratories or different tools that they create to support the work. And that's something that I've enjoyed a lot.. It's also an interesting perspective I think it makes me a better researcher when I meet other researchers and learn from reading what they write an example of a tool that incorporate a research to make it is a transport security analyses tool that is to help.

14:20.98

michaelholtz

Um, let me.

14:29.54

Mariana Sorroza

Country managers ah prioritize which countries they should work in so that's been some very interesting or um, analyzing something called the engagement and transport assessment collaboration which is a training so all of this I think makes me a stronger researcher and. It makes me excited to continue research in the near future and I will shout out my mentors because I'm just so grateful. They're so supporting. but but um shaa cotton Melanie Floriss and Sam Myyers they're just fantastic and even ah, you know in our management. Um.

14:56.98

michaelholtz

Um, please do.

15:06.84

Mariana Sorroza

Kristin Hirssh Kristin Ford Emily Adams they're all very supportive and I think that that certainly helps to wake up and be excited to go to work when you know that the people leading an organization are people that you admire and that inspire you so I am very grateful this inter internship has really changed my life.

15:23.90

michaelholtz

Awesome! Um, and thanks for giving a shout out to your mentors that was actually going to be my next question was on you know ahis internships and fellowships are mentor experiences. So intentionally you have mentors that you know you you spend time with and who.

15:27.46

Mariana Sorroza

Yeah, yeah, I'm very grateful to them.

15:42.71

michaelholtz

You learn from and who you know learn from you. How valuable has that been I mean I'm I'm hearing you already say that having Mentors has been extremely valuable and really for you. You have mentors going all the way back to your dad right? So um and the and the people that you met.

15:55.71

Mariana Sorroza

Yes.

16:01.18

michaelholtz

In his engineering firm. So you've kind of been surrounded by Mentors for a long time.

16:06.81

Mariana Sorroza

Yeah that's true and I like the way you phrase that I yeah, that's another thing like I'm very lucky. My parents are extremely supportive. My sisters and I have always kind of said like um, you know they make such a powerful duo because they um. Help us in everything that we do and everything from sports to clubs extracurriculars our class work. So I do think that like without my parents without the mentors I've had in my life even the ones I just mentioned I think things would have been very different I think that you know whenever I have a question. It feels good that. Know there are people that I trust and that are reliable that I can go to with my questions even while I was doing my research last year that was my first time doing research and publishing it and um my thesis chair Dr Timothy Cutner he helped me to understand how I had to write my thesis and this is something where. As I was researching my soft skills I was building on my soft skills because I had to write an undergraduate thesis that was easy for people to understand and I hope you know I accomplish that but my mentors have certainly played a huge role in everything that I've done and.

17:05.30

michaelholtz

Um.

17:17.92

Mariana Sorroza

Even sometimes there are things that I don't realize that without them I don't know that I would realize them and I think they're important things. For example, Melanie flourish. She helps me with so much. Both technical things and things that are not as technical but even things that team minor I remember one day we were in a meeting with. Ah, people from national laboratories and there was a man and a woman from a lab and my unconscious bias without realizing it I was mostly making contact eye contact with the guy in the room and not with the girl in the room and I feel like at that I should make eye contact evenly. But. Even more so the female was the boss like in the room like the one in charge and I didn't realize that and she Melanie signaled to me kind of like to make eye contact with both and I like snapped out of my own conscious bias and started making eye contacted them so now with them both you know so now when I'm in a room with people I try to. Like I I hear Melanie in the back of my mind being like make eye contact with all of them and though it might seem like a minor thing that's something that's important to me. Um, if I'm in a room and someone kind of ignores me I feel like hey like what's going on. You know so and I know it doesn't feel nice and I care about both those soft and hard skills. So. Even in the things that might seem so minor I'm just so grateful that I have mentors and even when they're not physically around me I hear them in the back of my mind like pushing the good values and leading me. You know? yeah.

18:39.41

michaelholtz

Yeah, right right? Um, and that makes perfect sense. Um, are there specific obstacles that you had to overcome to get where you are mariana.

18:55.29

Mariana Sorroza

Yeah I would say um, that's always a challenging question I would say that I'm growing up and this is like personal but growing up I had a lot of anxiety like really bad anxiety. And I think that it made me very fearful of a lot of things and fearful to take opportunities and ah thankfully I've also like my strong support system has helped me and I'm now at a point in my life where I can cope with my anxiety and I feel like there was a point in my life where I. Wasn't afraid of things so I didn't do them and I think that now there are some things that it's not that I'm not afraid of them I still am afraid of them but I push through that and still follow those opportunities something that is very important to me is my faith in God and I always remind myself faith over fear. And that's something that I think is powerful and that I try to lift By. So I think that my anxiety is something that I've had to overcome I think that mental health can be difficult because um, it's not oftentimes like if you I don't know fracture um your arm and then they put a cast and then. You know in a few months or so it's Healed. It's very different because they can't physically help you like that. So I think that um going to therapy and having people that I can confide in has helped me a lot and I'm grateful that now like compared to when I was a child I think that.

20:10.34

michaelholtz

Um, run.

20:21.93

Mariana Sorroza

The stigma is not astronomer as it used to be for mental health So I have always kind of struggled with anxiety but thank God It's much better than it used to be and now I am not I'm not afraid to take opportunities I Embrace opportunities if anything sometimes I get to. Jump but every opportunity you're spreading yourself down like choose not rights and but that's a good thing. That's I A huge yeah yeah, exactly. That's how I am now. So that's how huge growth for me and the main challenge that I feel like I've overcomed and I I think I had to go through that challenge to be who I am now and um, you know I'm grateful that I had to.

20:42.54

michaelholtz

I Want to do it all.

20:58.98

Mariana Sorroza

The right people there and at the right time to help me overcome it I had an on and uncle when I was younger that helped me immensely by taking me to a therapist. Um in Mexico that had helped my cousin and um I think that they were like in that moment my angels that came to help me so that that that was um, huge for me.

21:17.72

michaelholtz

And you know I think it proves to you know people who maybe you know have conscious or unconscious bias about mental health issues that you know you can overcome them and you can't um, be successful. We often. We all have something right? I mean at the end of the day we we all have things we struggle with probably so thank you for being candid about that I think it's really important to share and for other people to hear that they're not alone in struggling with anxiety and. And that sort of thing because um, we all deal with it it in my experience just from looking at my own family members. My younger family members seem to struggle a lot with anxiety today. Um, so it's it's good to hear your story to say you can't overcome this and you can. Be, successful and still chase your dreams and you know get to the place that you want to be so.

22:17.23

Mariana Sorroza

Yeah, thank you? I appreciate you sharing that with me and recognizing that and I agree with you I think and I think this like a lot of things for me lead me back to those important soft skills like there are times where you can't tell that someone is going through something right? and. You can't tell the battles that everyone is facing with I think then on most days, everyone's facing at least 1 battle you know, even if it's something minor but or minor to them like l battles or battles right? and I think that that's why it's so important to just be kind and be empathetic to people.

22:38.43

michaelholtz

Absolutely. Um, absolutely.

22:50.50

Mariana Sorroza

There are times where I've had people that are not so nice like got a store or something they're cranky and um I try to not react the same way if they're cranky to get cranky back? Um I think that you know sometimes like people are going through like major things and they've taken on the little things right? like oh man I drop my I don't know my bananas now.

22:58.55

michaelholtz

Right.

23:09.92

Mariana Sorroza

Now I'm stressed out and it's like okay like it might be something else. You know that's just like a silly example. But so yeah I think at August goes back to Soft Coast it's important to not lose sight of that I think that without people nothing would happen. So you know I think that it's important to recognize that even as an engineer or.

23:11.87

michaelholtz

Ah, right right.

23:22.25

michaelholtz

Run.

23:28.16

Mariana Sorroza

And international and global studies.

23:28.34

michaelholtz

Absolutely and I think you know as you said it's important to lead with kindness and empathy and understand but we don't know we don't know what the other person's dealing with and you know it may be a silly example, but they may be upset about the banana but there's probably something else.

23:33.85

Mariana Sorroza

Um, yeah, yeah, agreed and I know yeah I know we're humans and we make mistakes I know there are times where I'm like oh man like I was just kind of mean I'm so sorry. But.

23:46.85

michaelholtz

Right? like.

23:53.18

Mariana Sorroza

I Think like you know it's It's okay to like sometimes fall into the the oh my like but I think it's good to be ah try to be conscious and aware to catch it and to try to fix it or do something about it. But yeah, yeah, yeah course.

24:03.50

michaelholtz

Absolutely thank you so much for sharing that I think it's it's a really important conversation that we don't talk about enough for people to understand. Um I have 1 more question for you. Um Mariana what brings you joy.

24:12.35

Mariana Sorroza

Yeah.

24:19.90

Mariana Sorroza

Sure I think that spending time with people that I love like my family brings me a lot of joy and I think I think there are a lot of things that bring me joy thankfully but my family um. Is a huge part of my life. We're very um, like a Close-knit Family. So I feel like just hanging out with them and trying new things exploring eating together like really ah spending quality time in bonding my Dogcs roxy and brandy. They bring me great joy spending time with my boyfriend or my friends.

24:47.78

michaelholtz

Um, yeah.

24:55.19

Mariana Sorroza

Um, and also I am really happy with this internship and just to kind of tie it all back I think that um, being able to be a part of something that I feel is meaningful and contributes to an important mission is something that makes me happy and I know a lot of people unfortunately especially like. People are on my age who are very unhappy with their jobs and just yeah, like oh I have to go to work you know and I'm very grateful that I don't feel that way I never feel like I'm dreading that the next day I have to go to work I Always feel excited that it's something new and I'm learning something new and I'm meeting new people and everyone is just so Amazing. So. Um, that makes me really happy that my worklife balance is good and that I and I it brings me joy that I'm joyful both at at work in in my personal life.

25:45.78

michaelholtz

Awesome I Said that was my last question but as you were speaking or I thought of something else. Um I mean you are. You're a minorities serving institution intern. So how important is it for you to.

25:49.86

Mariana Sorroza

That's okay. And.

26:00.48

michaelholtz

See representation of people who look like you women who look like you in the workplace and then also be that representation for people who may follow in your foot centers.

26:03.14

Mariana Sorroza

Yeah.

26:13.70

Mariana Sorroza

Yeah, presentation matters a lot to me and this is ah another thing that I really love about this internship program. Only students that are at a minority survey institution are able to apply so it adds more diversity to the workforce. And the uscf is a hispanic serving institution. So we are an Msi which is why any student from Ucf including myself are eligible to apply for this internship program and that's what I like that I meet students from all, you know all over the world in this internship program that come from different walks of life families that have immigrated from different places. And representation matters a lot to me I think that when you see other people that ah have similar stories to you. It shows you that you can also do that we talked about it with mental health right? and I think it also applies to people from different races nationalities genders identities. So. It's ah very important to me to see representation and I think that also as a female in stem and as a hispanic female at that I think that um it makes me feel proud that I am able to study what I study and oh sorry though. Film but it makes me happy that I'm able to study what I study and that I am able to represent hispanics and hispanic females and stem. So I'm very grateful that I get to do that and right now like aoras I know that they care a lot about diversity. Um.

27:26.54

michaelholtz

Um.

27:44.26

Mariana Sorroza

Equity inclusion and accessibility. So and I U cf two So it's nice to be able to get to be a part of that enough working groups that are working toward diversity and right now I feel like it's a lot better than when I was a kid I see more engineers for example, now than when I was a kid so I'm excited for in the future when.

27:44.82

michaelholtz

Absolutely.

28:04.33

Mariana Sorroza

I'm like officially full time in the workforce as an engineer I think it'll be even more diverse and I'm just grateful that I get to contribute to that important cause.

28:12.75

michaelholtz

That's awesome because that's really important and it's I think important that um the scientists the the students who follow over your footsteps will be able to see you as representation of of them.

28:24.76

Mariana Sorroza

Thank yeah yeah, I'll just add that I think sometimes um I mentor um I'm a mentor for gross excel and math science that you see if I was for 2 years and I think imposter syndrome is something that is really easy to fall into I think I've experienced it.

28:32.35

michaelholtz

Um, okay.

28:39.65

Mariana Sorroza

Different points in my studies and I know others that have as well and I do think that sometimes when you look around the room and people look different than you or you know, just especially like with there's a lot of guys in the class. It can be intimidating sometimes make you doubt whether you're supposed to be there but other times just ah. You won't feel as comfortable, asking questions. Ah because you don't know that they'll understand you. So I think that imposter Syndrome is something that um, can sometimes discourage people. But you know I think that it's important to try to fight that and again have a faith of her fear and try to get past that. And I think that when students do it can create a really meaningful career and they can help kind of solve the problem that they see where there's some disparity in the representation. So yeah.

29:29.51

michaelholtz

Awesome! Well Marian Source Sorosa let me say that again. Mar a sorosa I'm going to leave it there. Um, thank you so much for your time and talking we've covered a lot. Yeah.

29:32.59

Mariana Sorroza

You have lady of hit.

29:43.83

Mariana Sorroza

And had.

29:46.38

michaelholtz

In about 30 minutes so thank you for sharing your story with me particularly some of the some of the sensitive parts that um, not everyone is is as comfortable talking about. So I really do appreciate that and i. Ah, hope that this episode will help other people other students see themselves and give them some inspiration to to do following your footsteps follow into sciences or policy depending on which direction they want to go.

30:18.97

Mariana Sorroza

Thank you so much. It was an honor to be featured on the podcast and I enjoyed our conversation. So thank you for inviting me and for your great questions and for listening. Thank you, Thank you.

30:29.80

michaelholtz

Absolutely my pleasure. Thank you so much all right I'm gonna hit star.