Ocean Gazing: Episode 39
Scientists, teachers and artists, oh, my!
The JOIDES Resolution

<fade up intro music>

Ari: This is Ocean Gazing: it's the podcast where we dig down into the seafloor to watch what comes bubbling up. I'm Ari Daniel Shapiro.

Keske: Just living on a ship, I think … you know, I try to be outside as much as I can so just being trapped on a floating hunk of metal is maybe going to be a little difficult. I don't know, like, I've never been in one place with an inability to leave it for 2 months solid.

Ari: Stephanie Keske does computer visualization work. At the moment, she's in the northeast Pacific onboard a state-of-the-art oceanographic research vessel. She and six other educators and artists from the US and France are working with the science team to do unprecedented outreach about the cruise. Stay tuned.

<fade up music and sustain until it ends; then bring up sounds of dock>

Ari: Picture a dock in Victoria, British Columbia on a sunny July morning. Container ships, coast guard vessels, and workboats actively criss-cross the water. Enormous cranes haul truck-sized boxes on and off of ships. And docked in one slot is a massive 470-foot research vessel called the JOIDES Resolution, or the JR. It's busy as scientists, crew, and the folks doing outreach board the ship and get ready for their imminent two-month voyage. JOIDES stands for Joint Oceanographic Institutions for Deep Earth Sampling.

Fisher: Well, the overall goal is to understand the role that water plays as it moves in and out of the seafloor and through large areas of the seafloor.

Ari: Andy Fisher is a professor of Earth and Planetary Sciences at UC Santa Cruz and co-chief of the cruise. He stands on the deck of the JR.

Fisher: There's as much water that moves in and out through the crust as comes off of all the rivers in the world into the oceans. And it's enough water that it essentially recycles the ocean about every half million years or so. That is to say the entire volume of the ocean passes through the seafloor. And of particular interest for this expedition is it helps to support a vast sub-seafloor biosphere of microbial life.

Ari: To understand how all this water moves through the ocean crust, and what kind of life is thriving down there, the science team will be drilling boreholes into the ocean crust. Into each borehole they'll insert something called a CORK, which stands for Circulation Obviation Retrofit Kit. It's a lot like a cork in a wine bottle: long and cylindrical and it plugs the borehole. CORKs are sub-seafloor observatories.

Fisher: CORKs are gonna be used for monitoring pressure and temperature, and collecting fluid and microbiological samples for years to come.

Ari: But the science being conducted is only one part of the JR's mission. Which brought me to a question:

Tell me – you've got a group of, of educators, illustrators, artists coming from the US and France. What are they onboard to do? Why is that a priority?

Fisher: Right, we decided early on that we wanted to have a major education and outreach program. It's a 2-way effort. We're sailing really with 7 people that we've brought along because we want to get their help in communicating the excitement, the inspiration that's provided by the scientific work that we're doing. We also as scientists need to learn better how to connect what we're doing to things that, that young people are interested in and the general public is interested in and even – <ship radio announcement> – even our colleagues who are in different disciplines. For us on the science side, we're gonna be kinda dancing back and forth between science objectives and education and outreach objectives.

Ari: And what about on the education and outreach side? Well, I got to speak with 4 of those 7 people moments after they boarded the JR for the first time. One sentiment was universal: how they were feeling.

Richardson: Mostly I'm just extremely excited to even be onboard.

Gautier: Right now? Excited.

Kane: Great, it's so exciting.

Keske: It's mostly excitement, you know, I wouldn't have signed up to do it if I wasn't excited about it.

Ari: But each of them was excited for a slightly different reason.

Richardson: Okay, well, my name is Bejonty Richardson and I am a junior at Virginia State University studying manufacturing engineering. I'm hoping to be able to spread interest mainly at my HBCU.

Ari: When you say HBCU, you mean historically black college and university?

Richardson: I do.

Ari: Is there kind of an incentive from HBCUs to get students and professors involved in ocean science?

Richardson: Actually, there's not much incentive. It's more that we're trying to get more people involved, to get them interested and teach them something that they don't think about it at all.

Ari: So, so how are you feeling?

Richardson: A little motion sick. But I'm constantly checking my email trying to get my professors to answer and make a commitment to talk to me while I'm on this trip, and bring their classes and get them involved as well.

Ari: You say you're motion sick but the boat hasn't even left yet, right?

Richardson: Oh, no, I just got off a plane to Seattle from Virginia and then I took the ferry, I took the Victoria clipper here.

Ari: Can you kind of tell me a little bit about what you're noticing?

Richardson: I've kind of just been walking through all the different science labs and there's, honestly, I have maybe a clue of maybe one or two of what these machines are, what they do. I've already gotten lost twice wandering from lab to lab, but I'm just standing wide-eyed, basically.

Ari: When you say you got lost, you mean cause the ship is just so big?

Richardson: It is. I was already taken to my room and I guess I turned the wrong direction and got lost in a different part of the ship. I went down a floor instead of coming up one. It's huge. It's the biggest ship I've ever been on.

Gautier: So my name is Jean Marie Gautier. I am a French teacher of biology and geology in France. Maybe when I was younger, I always watching TV about sciences and now I am inside so before that was like a dream. And now dream is becoming a reality. That's what I want: to promote science and to make new tools to interest the students. A lot of French teachers, for example, want to work with me when I will be back. It's great.

Kane: My name is Jackie Kane. I teach science at a high school near Toledo, Ohio. Since the first geology course I ever took, they put on the walls core columns and I said, "Wow, that is the most exciting thing I can think of doing." But we never got around to doing it much in my whole career in college. Then this opportunity came up and what are they doing? They're taking cores out of the ocean floor and that's very exciting. So here I am.

Ari: What are you hoping to get out of this trip?

Kane: One thing I really want to do is take what the scientists are finding out and the way the scientists think and the way they tackle problems, and help students understand that and bring that back and help them develop their scientific abilities.

Keske: Hi, my name is Stephanie Keske from Texas A&M University. I'm gonna do animations of the CORKs that they're putting down in the seafloor.

Ari: So you've got two months on board that ship and you never get off?

Keske: That's correct.

Ari: How are you feeling about that?

Keske: Uh, a little nervous. There's, like, a 6-week mark and the 6th week everyone's grumpy and homesick but once you get passed that, then you're fine. So I packed some, you know, Reese's cups and cookies to share. Hopefully I can try to bribe people into being my friend, I don't know. We'll see.

Ari: How do you exercise on board, or do you?

Keske: Um, you know, I just got on so I haven't quite figured that out yet. There is a gym with treadmills and weightlifting, which is not really my thing, but I'll have to get into it. And apparently there's also one deck where you can run around the deck. Apparently it's pretty small. I haven't even seen it yet, but it's, like, 22 laps to make a mile or something like that. You probably get kinda dizzy, I guess, but I've heard you get used to the listing motion of the ship and so you exercise your core muscles a lot when you're walking around so you don't fall over. So it's, you know, kinda like a giant exercise machine, I guess.

Ari: Right, so it's kinda like a 2-month long workout.

Keske: Well, maybe, apparently they also serve a lot of cookies and cake.

Ari: Is this kind of a new thing for you to be illustrating something and be so close with the science and the scientists?

Keske: It's very new experience and I'm very, very excited to have this opportunity. It's not something I've ever done before. I get to, you know, rub elbows with them and eat dinner with them and hear all about what they're doing. I think it's gonna really affect my work and make it a lot better. And give me more incentive to kind of put everything into this cause they're so passionate about it and so I know I'll be passionate about it too.

<fade up transition music>

Ari: You can actually follow the voyage of the JOIDES Resolution yourself. Just go to joidesresolution.org. We've got a link, plus some pictures of the team on our webpage: oceangazing.org. Send a note to anyone in this podcast or leave them a voicemail. You'll find directions online. Do it soon, though: the cruise ends in late August.

Right now, among other things, the folks doing outreach are busy collecting audio recordings for the next episode of Ocean Gazing. So until next time, Ocean Gazing is a product of COSEE and we receive financial support from the National Science Foundation.