**Alyssa Favreau:** Hello, everyone.

**Rackeb Tesfaye:** Hello and welcome to the third episode of Audio Distancing, the new Broad Science minisode series about communicating inclusive science in the time of COVID-19.

**Alyssa Favreau:** We are your hosts. I'm Alyssa Favreau. And I'm joined by my lovely co-host Rackeb Tesfaye.

**Rackeb Tesfaye:** Alyssa, is it... Is it over yet?

**Alyssa Favreau:** Coronavirus? Is Corona virus over yet? I'm afraid not.

**Rackeb Tesfaye:** All of this. Is it over.

**Alyssa Favreau:** No.

**Rackeb Tesfaye:** I think we know collectively reached the point where we can't remember the hour, days. Frankly, the month. It snowed here in Montreal.

**Alyssa Favreau:** In May!

**Rackeb Tesfaye:** And I mean, I personally would like to opt out.

**Alyssa Favreau:** Oh, I haven't been quarantining in my own home. So this entire thing has felt like, on the one hand an extended holiday, but also kind of nightmarish and a holiday where I still need to claw my way out of this stupor to get any work done. It's not great. It's not great.

**Rackeb Tesfaye:** No. And so we know we are not alone in this. And thank you for indulging us in expressing some of our frustrations. This situation has pushed our patience to the limit and really shown the burden that information overload can place on you, along with trying to abide by best practices that are constantly changing.

**Alyssa Favreau:** The World Health Organization has even deemed this an "infodemic" as well as a pandemic. So that stress is very real and very harmful.

**Rackeb Tesfaye:** Mm hmm. And then you add the misinformation on top of the constantly updating evidence-based science and it's vulnerable populations that will bear the brunt of a truly toxic situation.

**Alyssa Favreau:** With certain world leaders suggesting bleach drinking, it's toxic in more ways than one.

**Rackeb Tesfaye:** So there are trolls even at the highest levels, spreading false information and things are changing so quickly. Wear a mask, don't wear a mask. You're terrible for not wearing a mask. We're going to snitch. So how do you even begin to communicate about this? How do you not take your loved ones and shake them when they don't seem to understand the gravity of the situation? A situation that none of us really understand that well.

**Alyssa Favreau:** Even if you never saw yourself as a science communicator, according to Liz Neeley, executive director of Story Collider, "We are all science communicators now. COVID-19 has conscripted us."

**Rackeb Tesfaye:** Liz recently wrote a piece in the Atlantic called "How to talk about the coronavirus: four ways to help those around you be better informed about the pandemic."

**Alyssa Favreau:** We caught up with Liz virtually...

**Rackeb Tesfaye:** What we just, like, casually bumped into her on Zoom?

**Alyssa Favreau:** Yes, totally unplanned. How ya doing? Well okay, so we organized an interview with her. Thank you for fact checking me, Rackeb. And she shared her tips for how we can communicate better and engage with each other more empathetically and constructively during this pandemic.

**Rackeb Tesfaye:** So let's take a deep breath and listen.

**Rackeb Tesfaye:** Liz, you are the executive director of the Story Collider, a lecturer at Yale University. You are a trainer and a practitioner of science communication. So you have lots of experience tackling and disseminating complex issues in an accessible way, and quite known for doing so. Was there a specific moment looking back now that really crystallized your need to share your expertise and experience with regards to coronavirus?

**Liz Neeley:** I mean, for me, the coronavirus issue just made everything immediate and tangible and personal. So all of the skills that I have been teaching people for years — like how do you figure out what information to trust and then how you share it with other people — suddenly came home to roost. Because I was trying to figure out myself, do I need to wear a mask? What are the steps I need to take? And I was having conversations with my family, with my parents and my sister, and just collectively trying to make sense of that.

**Alyssa Favreau:** And you recently wrote a piece in the Atlantic, titled "How to talk about the coronavirus," appropriately enough, and you give some great recommendations in the piece. Your first piece of advice is "start where you are." Can you explain what that means a little more?

**Liz Neeley:** Yeah. So I know from years of working as a science communicator that sometimes our gut instinct, especially for those of us who are very online, is like, "Oh, I got to get a big audience. How many people are going to read my piece? Or how many people are going to listen to it?" We have implicitly just assumed that audience size is the most important metric. And I realized, especially for something hitting so close to home as coronavirus, sure, some of us are well suited. We've got the expertise and we have the existing platforms to reach a very large audience. But all of us can do a world of good by working within our own networks. And so my thinking in "start where you are" is that there is already a number of people, your friends, your family, maybe your colleagues at work, just your immediate community. They know you. They trust you already. They're much more likely to pay attention to anything you have to say, even if it contradicts what they're already thinking. And so instead of thinking "I will solve this global pandemic, that's making me personally feel anxious by trying to quote unquote inform the public," we can borrow from environmentalism: think global, sure, but act local. So the first place, for me, I want to start my science communication is with the people who know me, the people who trust me, the people with whom I share a cultural context. And that will also not only help me be the most effective and efficacious for the effort and time I have to put into this, but quite frankly, will also protect me from falling victim to thinking that I'm some sort of saviour who's going to educate the people, which I think takes us into dangerous waters.

**Rackeb Tesfaye:** It's very dangerous deep waters. And within our local ecosystems, as you point out, there is a lot of frustration that can occur during these times of isolation. And in your article, you give advice to pick your battles. There are many battles to pick from these days. Why did you think that was important in this context?

**Liz Neeley:** I'm reminded there's a classic cartoon, an XKCD cartoon, where a little stick figures typing on a computer and is like, "Honey, I can't come to bed. Someone on the Internet is wrong." And I think good science communication always comes from a place of humility, to recognize that not only is everyone wrong about something, sometimes, that includes ourselves. I have no ability to be effective in doing my job and living my life if I'm the person who every time anyone around me opens their mouth about anything, I jump in with "Well, actually, that's not right." And so I think when I say pick your battles. I mean, accept that it's not actually an effective science communication technique to attempt to correct an individual at all times. Anytime you hear them say anything. And it is especially counterproductive for those of us who are acting as science communicators to confuse or muddy the waters between "here's some data and here's some facts, and here's what we understand about something like the virus," versus the political arguments of "what do we do with this information? What how do we act upon it?" And I want to be really clear here. Politics are never more important than when people's lives are on the line. There are critical fights that I think we need to have. But I don't want to accidentally increase all of the barriers that can sometimes form between two people if they have ideological differences, and especially political differences, by mixing those two things up. So let me say that again in a slightly simpler way. I've argued with my dad so many times in the past, about so many different scientific topics. And I know from firsthand experience, as well as tons of data, that the more I would come at him by saying everybody you voted for is terrible and your political party is in the wrong. All it does is like put him on his back foot. He's attacked. And now he needs to defend his voting record, his entire political identity, his life. He's not going to be listening to me and the data that I have. And so what I think when I say pick your battles, it's about A) first choosing what to engage on, and then thinking about how to do that in such a way that you can make a constructive difference instead of just screaming at each other because we're all upset and scared.

**Alyssa Favreau:** That seems really crucial. Your next piece of advice is to avoid unforced errors. And it seems like so much of what's circulating is either just straight up misinformation or information that was relevant, the last day, the last week, the last hour, but now things have changed and it is no longer relevant. So how does one even begin to combat that?

**Liz Neeley:** This is so hard. And this global pandemic in particular is challenging us in every single dimension that makes science and science communication separately difficult. So throw it all together, make the stakes really high. This is a challenge. When I think about unforced errors, this is a sports metaphor. It's the idea of sometimes you have to react to a situation and maybe you do the wrong thing. You've made an error. The unforced error is the kind of thing that you do to yourself. Right. It's the accidental... It's making a goal on your own team. When I think about this in a science communication context, it is things about our unexamined, intuitive feelings about how you argue with someone that, turns out, the research tells us makes things worse by, for example, reinforcing a piece of misinformation. Or there are things like boomerang effects where if someone is going along in their life and then all of a sudden they're faced with a scientist saying, "Hey, make sure you don't worry about this thing. It's totally not a problem." If you'd never thought about it before, all the sudden you might be like, "Wait, what? What do you mean, don't worry about that. I Hadn't thought about it before. Why is this person told me not to worry?" So unforced errors, I think, are a category of science communication behaviours that are counterproductive to your own intended goals. And so for misinformation in particular, people are worried about a global pandemic and they have mistaken understandings, or they're hearing rumours, here's a quick list of things that we do not want to do: We don't want to reinforce the rumour or mistaken information by saying, "Hey, you might have heard X. That's wrong." All you've done is repeated it, right? And when we hear something repeated a lot, it feels normal. It feels common. And so it feels truer just by virtue of being frequent. What you can do instead is focus on the facts. Talk about the things that are true. Repeat the true message, and repeat that often. When people are searching for an explanation. It's not enough to just say, "Hey, that thing you thought it's wrong." Because even if they believe you that it's wrong, we've still left an explanatory gap in their head. They don't know what the right answer is. And so instead of just over and over again repeating something that's true, like "antibiotics won't work on a viral infection," fill in the gap. Explain why. Like many people believe that an antibiotic won't work on a virus. But they don't know why. And if we can't answer the question, which is something that's very true of everything right now, we all need to get better at saying "I don't know, but here's how I would feel confident in an answer, or here's what I'm watching." We can also look to explain the motivations of people who are pushing a very specific message, and in this way foster healthy skepticism. I want people to come along on this journey in full respect of their agency. I want to inspire them to do the hard mental work that sometimes science requires of us. I don't just want people to trust me and do what I say. And I don't think of literacy, scientific literacy or media literacy where it's just, "Oh, check the source, and if it's a good source, then you can trust it." That's not scientific, right?

**Rackeb Tesfaye:** No, no.

**Liz Neeley:** I was just thinking that the best kind of science communication doesn't just teach people a fact. It opens up the world of science to them and helps arm them with the tools of scientific inquiry. It helps them appreciate science as a process and empower them to feel like this is a process that they are an active member of, can contribute to and can benefit from.

**Rackeb Tesfaye:** And part of that process, as you had mentioned, is the acceptance that we we don't know it all. And that taps into your your fourth and final recommendation in the article, which is to be as honest and transparent as possible, of being the the "nerd node of trust" for the people around you, which, what a wonderful term.

**Liz Neeley:** It's not mine, but yeah.

**Rackeb Tesfaye:** I was going to cite it as the good academic I was raised to be. Emily Willingham, I believe, in a 2013 Forbes piece.

**Liz Neeley:** That's right.

**Rackeb Tesfaye:** And that honesty and transparency, it's so, so important. But you've also talked about recognizing your place and identity before communicating. And that oftentimes the people in power, or who have produced scientific data, might not be the right people to disseminate it and often don't recognize that. So how does one balance having the information and knowing when and where it can be best deployed?

**Liz Neeley:** Again, this is a great question and a hard one. For me it comes back to this question of "Do you trust data? Do you value science?" Those of us who are doing research, who have data to share, think the answer is always yes. And so then it is, are you aware of the fact that there is a large body of communications research looking at how effective different people are as messengers to groups of which they belong versus groups that they don't belong to? And this is not saying like, "Oh, well, you're the wrong person, you must sit down and never share." But it's also recognizing that humans are a social species. We are most effective when we are operating within groups who trust us and share our context. And so sometimes science communication faces a translational issue. We need to be able to take information that was generated in labs in a very sort of specific cultural context, and make that salient for groups who may not feel at home in those labs, or who don't use the same language, or who don't use the same set of expectations and agreed upon understandings about how the world works. And yes, we can all stretch to... the first rule of science communication is "know your audience" and figure out how do you design a message that resonates with them. And sometimes the smartest thing we can do is form partnerships with people who already understand a particular community incredibly well and have the social capital within that community. Especially because, and I want to say this really carefully, scientists need to remember our past. It's not even that long in the past. We have a history of racism and human experimentation that we need to confront. And it is absolutely appalling the ways in which people will say things like, "Oh, well, why doesn't this community trust us? They should." And I just think, "Yhy should they? Are you kidding me?" So I think all of those considerations coming together tie neatly in this bow about reflection, honesty, humility, transparency. There's no shame in thinking that you cannot single handedly be the one scientist who can speak equally well to everyone on the planet. I mean, when you say it like that, it sounds kind of patently ridiculous.

**Rackeb Tesfaye:** Yeah, it does. You know, we're touching on own feelings of trust. And in these current times, how do you effectively communicate when you don't feel safe? When decisions being made around you make you feel unsafe or uncomfortable? Maybe families not social distancing or strangers not staying six feet away from you. That added burden of of heightened anxiety and physical and mental safety. It's hard to communicate when that's around.

**Liz Neeley:** I like to think about this idea [of] you put on your own oxygen mask first. It's okay. It is okay not to be okay right now. When I tie this back to science communication, for me it's about the idea that it's okay to take a step back. And maybe unplug for a little while. You cannot, you physically cannot read every single paper on this emerging disease. You can't. And so, like, giving yourself permission to get a little bit of distance away from it and recognize that your knowledge necessarily has limits. To be able to recognize those boundaries, acknowledge them, and then sort of thoughtfully decide which areas you're going to expand at any given moment. That's a coping strategy. And so I think it's sort of... It's metacognition, right? It's the ability to notice what's happening inside your mind and acknowledge it. Decide if it needs action or not. I think sometimes quote unquote science communication is often masquerading... It's anxious fixing. People are feeling upset and so they're trying to read every paper. Or build a new model. Or correct everybody who's wrong, because it's somehow tangible and an easy way to make it feel like you've fixed something when so much is out of your control. And I think being aware of it, if you fall into those behaviours, and redirecting that energy toward something productive, will help you both feel like you've made a difference without burning yourself out, and that that difference is is tangible and helpful. I hope it doesn't come across in anything that I say, with the approach to science communication, of like "You're doing it wrong." Don't worry. Science communication is always a long and ongoing process. We can never faithfully track back the moment someone changed their mind. You never know what seeds you've planted. And my request, my guidance to all of us is to give yourself grace, learn lessons, take on new advice, be experimental, see if it works and, you know, just keep moving on. What works for me isn't going to work for everyone. What worked for one particular audience or one community isn't necessarily what's going to work for another one. So don't worry about like, "Oh, you're doing your wrong." Just keep experimenting. Be rigorous and creative in your science communication the same way that you are with your science.

**Alyssa Favreau:** Thanks again to our guest, Liz Neeley, who can be found on Twitter @lizneeley. And we'll also be posting her Atlantic piece in our show notes.

**Rackeb Tesfaye:** I would also like to announce that I am starting a petition to have Liz be an audio book reader. I know we all understand why. So let's make this happen.

**Alyssa Favreau:** Yeah, I read all the bedtime stories, please.

**Rackeb Tesfaye:** Exactly. But till then, Story Collider is now bringing you true personal stories to your home every Friday night. So please check out storycollider.org. They're really fun nights to tune into, they're interactive. You can drink in your pyjamas and listen to stories. Highly, highly recommended.

**Alyssa Favreau:** If you'd like some more Broad Science content, you can find us on Twitter @science\_broads, on our website, broadscience.org, and anywhere podcasts can be listened to: iTunes, SoundCloud, Spotify, Stitcher, we're there.

**Rackeb Tesfaye:** All those places. And if you can like and subscribe, we really appreciate every single review. Thank you.

**Alyssa Favreau:** This episode was edited by Ryan McFarlane

**Rackeb Tesfaye:** In partnership with CKUT 90.3 FM, as always.

**Alyssa Favreau:** See you next week. One take wonders! Wooo!