

## What does science communication even look like?

Hello you lovely lot. You are listening to the SciComm Toolkit. The podcast that gives you all the tools you need to talk about science with confidence and bring science stories to life. I am Soph but some of you may know me as Soph talks science. I'm your host and I am so happy that you have decided to join me in my little audio cubby hole of the internet.

As this is only episode 3 of the pod, I'm still trying to experiment with fun ways to start these episodes off. I don't really want to be like a teacher stood at the front of the room telling you to get on with it. I want to be more like Spiderman, and by that I mean I want to be your friendly neighbourhood scientist. Yeah I think that is a bit of a tenuous link. Ha apologies for that! Anyway, to spice up the start of the episodes, I thought maybe I could share a random fact about me, or a silly little story, a joke, or a song - okay maybe not a song. Just something to hopefully put a smile on your face, or make you awkwardly laugh out loud on the train or in the office or wherever you are listening to this episode. It's gonna be an experiment but let's see how it goes. And I'm going to kick it off with a big one. It's probably my biggest claim to fame. Here we go. I once cooked for Professor Stephen Hawking. So when I used to work in my local pub as a chef, he happened to be in the area on holiday and came in for some food. He ordered the duck with an orange and cointreau sauce with a side of garlic potatoes. That's my claim to fame! That's it! Oh god, maybe this was a bad idea. Haha.

Right lets get back to business. This episode is the final one in a mini series called the SciComm Foundations. These are the big picture questions that you need to have nailed down before you start doing science communication. In episode one we covered the what and the why. In episode two we talked all about who your scicomm was for. And today we are going to wrap it up and cover the when, the where and the how.

The when and the where are going to be simple to cover. Science communication can happen any time, any place, any where. There are no limits. It could be a video that you can watch on YouTube at 4am if you wanted to. It could be an interview on a breakfast radio show. It could be a chat with a couple you met in the pub, or a late night nerdy comedy evening and everything in between. What will help you decide on your when and your where is knowing your audience and your why for your science communication project, so make sure to listen to the other episodes in the series to help with that.

Now all we have left to cover is the how. In this episode I want to outline as many of the ways you can do science communication as possible. It's kinda overwhelming how many options there are. There will be so many more, and there will be ways that noone has even thought about yet, but hopefully it will give you an idea of the scicomm landscape. Once you know what the options are though, how do you know which flavour of scicomm is best for you? I'm going to share some tips on what to consider when deciding the best way to tell your science story, and talk you through today's resource in the DIY section of the podcast.

So let's get to some landscaping and explore what exactly science communication can look like?

There are endless ways that you can do science communication. I'm sure there are going to be so many that I will forget about, but the point is to give you a whistle stop tour of what opportunities there are out there for you. I have tried to group them into four super broad categories. They probably don't all fit neatly in these categories, but we are gunna go with it to try and give this some structure. This is going to be a bit of a whirlwind so I hope you're ready. Let's go!

So, the first category is media. We will start with social media. Everything from Instagram and Twitter to LinkedIn and Pinterest, and even Snapchat and TikTok. All have different audiences and all have different features that can be used for different goals. Just with Instagram for example, there are reels where you can deliver short sharp facts, there are Lives and IGTVs where you can have conversations and interviews with researchers, or even carousel posts to go deeper on a topic.

Moving on from that we move into videos. That could be anything from YouTube videos to David Attenborough documentaries and films to a video abstract to go alongside your next research publication. These can either be of people, places or animals to camera, or with animations and cartoons. And that can of course be for adult or children audiences.

Sticking along the broadcast lines then there are also scicomm opportunities on radio, and then other audio projects like podcasts. I also wanted to point out that with video and audio projects, you don't have to be the one in front of the camera. You could be behind the camera as the cameraman or the script writer or the audio editor and so on.

The final subcategory that I want to talk about in this media category, although I'm not convinced that it fits in completely but anyway, it is all things writing. This could be science journalism writing about science news and press releases, or it could be feature articles about broader topics, or more personal and more niche blog posts and opinion pieces. It could be the script writing as I've mentioned or even full blown popular science books. Or science books for kids. And then some that always get overlooked, and that is research publications and grant proposals too.

So, the next big category of possible ways you can do science communication is events. The obvious first thing to mention is science festivals. From major events like Pint of Science or the Cheltenham Science Festival here in the UK, to local ones, to school and family days that individual organisations could hold, to online festivals. There could be a range of different events and activities at festivals from debates and panel discussions, to demos to talks and more. Talking of talks - these could be public lectures, it could be careers talks at school, it could be academic conference talks. It could be for other scientists, for families, for different community groups and on and on. I've also seen some fab events where they have paired public science talks with venues that serve ice cream.

You could create a science comedy night, incorporate cosplay, or I have been to a few events now that are about science cabaret and drag which have been incredible. You could create a demonstration about your research, or present one of the classics. Or you could use augmented reality or create a virtual reality experience to bring your science story to life.

The third category is arts - something that marries with science communication so well in my opinion. So this could involve an exhibition of any kind that involves science art, or sciart. That could contain photographs, sculptures, illustrations and more. Maybe you could use illustrations within a comic book, or even as a visual summary or representation of your research. Hey it might even be the visual that gets you the cover of the research journal you have submitted your paper to. You could turn your illustrations into stickers, pin badges and more and create a side business from it. It could be an infographic that summarises a topic in a simple and visual way, or any other kind of data visualisation. Don't forget your science posters are a type of science communication too. Maybe you have a love of crafting and could find a way to incorporate that into your science communication. I've seen projects using crochet, using origami and even knitting.

You could use your music skills and create a song, a rap or even a sea shanty about your topic. You could even develop a play about a scientist or a scientific discovery. Or combine them together and create some musical theatre. There are whole competitions where you convert your research into a dance performance. You could write science poetry or even use make up or fashion to tell a science story.

The fourth and final category I've imaginatively called Other. This includes anything to do with science policy including writing documents that can be presented to the government or even in person if you are called to give evidence on a topic. Science communication could also be a trip to a museum and all the activities and information on display there. It is also the presenters at museums and the skills they have to answer the public's questions and any visitor experience involved. You might want to create a game about your science. This could be a board game, a video game, any other type of online game, and I've seen a rise of science themed escape rooms recently too - both in person and online. And the final way I wanted to share was baking or cooking - yes you can share science stories using cake.

We are going to learn more about all of these and more as the podcast continues, so let me know what topics you would be interested in hearing more about so we can cover them sooner rather than later.

There will be countless more but hopefully that will give you a flavour of what the options are. Really. I think that the only limit is your imagination, Of course, they could be mix and matched and combined together, the key is knowing if the way you choose to share your science story blends well with your why, your audience and the goals of your scicomm project

If you haven't been asked to get involved with a particular science communication project, but you are keen to give it a try, where do you start? With all these possibilities at your fingertips, how do you work out which one is right for you? Well, I have four key questions that you should ask yourself:

What is going to reach your audience?

Once you really understand your audience, and if you're not sure, episode 2 in this series will give you all you need to know on how to get inside the heads of your target audience, so go check that one out after this episode. Once you know more about your audience's interests and background, you can start to match the method. This is going to help your audience to become more engaged with your topic, and find it easier to relate to what you are talking about.

What is going to help you reach your scicomm goals?

Again, make sure to listen to episode 1 if you want to know more about finding your why for science communication. But what is the purpose of your project? What is the goal? What are you trying to achieve? Then ask yourself if your preferred way to communicate your research is going to help you achieve that. For example, if you just want the latest science news to reach as many people as possible then a broadcast option like radio, journalism or TV is probably your best bet. If you want to discuss more intimate or maybe controversial topics, then a smaller debate or panel event might be more suited. Also consider how complex the story is that you are trying to tell. A demo for a super complex signalling system might not be the easiest way for your audience to understand. For that you might need some longer form content like a blog, or a talk where you can slowly build up the layers and the details. Make sure that the way you are going to be engaging your audience feels cohesive with what you are trying to do.

What skills and experience do you have?

Ask yourself whether you have the skills and resources to do this. If you're not a makeup mogul then maybe that isn't the best option for you alone. But it would be a fantastic opportunity to find a collaborator and work together on something. If you are just starting out maybe you want to build up your confidence with something more in your comfort zone and build up to the big scicomm dream. You also have to consider how much prep time and delivery time each of these might need and whether you have the capacity to do that. Also think about whether you would prefer to work on something that culminates in a big final deadline like a festival or art installation, or whether you want something that you can find around your schedule like a YouTube channel or a blog where you can control the frequency and timings of things.

What skills and experience do you want to gain?

Having said all of that in the previous question, I also think it is really important to consider what skills you want to gain. If you want to learn more about audio editing, then maybe take the leap and start a podcast, or you might know nothing about knitting but the local community group you want to work with does. They can bring that knowledge and team you, as you bring the science knowledge and teach them. I'm also a huge advocate for collaborations. So if you want to learn a new skill, work with others on their projects to build up your skills first maybe. While it is important that your audience gets something from your science communication, it is also supposed to be fun for you and I want everyone to be enthusiastic about whatever flavour of science communication is for them, so feel free to try something new and challenge yourself too. After all we are unlikely to just work on one

scicomm project in our entire lives, so maybe one can be more in your comfort zone and one can be more a challenge for you to develop other skills.

We have reached the DIY section of the podcast. This is the part of the pod where I share with you an exercise or resource that will help you to add yet another tool to YOUR scicomm toolkit. Today I have a simple worksheet that will help you to work out what the best form of science communication is for your project.

There is a section for your goal and the purpose of your project. There is a second section for your audience and their interests and motivations. Finally, there is a final section for you and what you want to get out of this as an individual.

When you are planning your event or project and doing your background research, fill this in as you go along. What are the key things in each of these sections that are going to help you to work out the best way to tell your science story. From filling that in, I'm sure some overlap will appear and that will help you to visualise what flavour is for you.

You can download that from my website right now at [www.sophtalksscience.com/scicommtoolkit](http://www.sophtalksscience.com/scicommtoolkit). You can also get the DIY kits for all the other episodes, as well as transcripts and show notes. As always if you have any questions about what you have heard in today's episode or throughout the rest of the SciComm Foundations miniseries then please do get in touch on social media or email or comment on the website. There are many ways you can get in touch. I've also been trying to come up with a flow chart, you know like the ones you can find in teenage magazines that tell you when you are going to meet your soulmate based on a load of random criteria. But this flowchart will hopefully help you to work out which options might be best suited to your project. I'm not fully happy with how it is currently, but when that is finished I will share it on social media and add it to the show notes too.

And with that you will have completed your SciComm Foundations. You now have the tools to construct your framework from which you can build and create your science communication, whatever that may be.

So yeah, that is all from me for this episode and in fact this mini series and launch week. I will see you every Wednesday from now until the end of the season. Come and join me on Instagram. I'm @soph.talks.science or you can follow the pod to stay up to date on the latest announcements and such @scicommtoolkit. If you enjoyed this episode, please share it with your friends, your family or your lab mates. It all helps me to get this podcast into the ears of more people and hopefully grow our community of science communicators even further. As always, I would be hugely grateful if you wanted to rate, review or subscribe to the podcast, and any feedback or wishes for what you want to see in future, let me know as I want this to be a super useful resource for YOU.

That is all from me. Have a fab time until I see you again here on the SciComm Toolkit podcast. See ya.