

Why even bother doing science communication? SciComm Foundations Part 1

Hello hello hello and welcome to the first official episode of The SciComm Toolkit. I'm Soph or some of you may know me as Soph talks science. I am a molecular biologist turned science communicator and digital content creator and I cannot believe that I am finally launching this little passion project of mine. I've been mulling it over in my brain for... gosh.... It must be at least 18 months or so now. But it's here. It's finally out there in the world and I am so grateful that you have joined me and I can share some little nuggets of wisdom with you.

The SciComm Toolkit is a show for researchers and science communicators, or anyone who wants to talk about science really, to get all the tools they need to communicate their science with confidence. Whether you are just starting out, want to learn a new skill or level up your scicomm confidence, this show will give you all you need to bring science stories to life.

Now if you wanted to build a house, you wouldn't start until you had dug down and created the foundations - or at least I hope you wouldn't. But the same goes for your science communication. To continue to build up and level up, you first need to have some strong foundations. Those foundations are going to give you that strong and sturdy base to start from. Without those foundations in place, anything you try to create could be quickly blown down with a puff of smoke.

So, I wanted to kickstart this podcast with a sort of mini series about what I like to call the SciComm Foundations. The 5 W's and the H. The why, what, when, where, who and how of science communication. Of course, with future episodes we are going to dive deeper in different ways of doing science communication, but with this mini series to kick everything off, I really wanted to give a broad overview and introduction and a outline of the scicomm landscape, so don't worry the intricate details about different topics are coming, but we all need a starting point. If there are certain topics you would like to see covered in future episodes, do get in touch and let me know what you would like to see.

In this episode, I want to talk about what science communication is, and what I mean by scicomm in the context of this podcast. I am going to share 9 reasons why you should bother doing science communication at all and finally we will do a little bit of DIY and share some tips and tools for helping you to find your why. So without further ado, let's get stuck in.

What is science communication? Also known as scicomm, it is the practice of educating, informing, sharing and raising awareness of science-related topics with an audience. Usually, science communication includes not just science but the other STEM disciplines of technology, engineering and maths too, and the people who share the sense of wonder and curiosity about scientific discoveries and arguments are called science communicators.

But things can get a little confusing because when I say science communication, it can mean a variety of different things depending on who you ask. You might have heard of the terms public engagement, or science outreach, or patient involvement and there is science education too. The definitions of each and the differences between them can be a little hazy at times - some talk about two way conversations compared to one way, some are defined by audiences and so on. But I don't want to overcomplicate things. For the purpose of this

podcast, when I say science communication I mean all of these areas. Not only because it will streamline everything and we can chat to even more incredible experts, but also because they are all intertwined, and we can debate those differences another time.

In a recent job interview I had, I was asked whether I was sure I wanted to do scicomm and not go into a public engagement role instead. The point of my answer though was that they both need each other to be successful. For science communication, you want people to engage. At a public engagement event, you will keep people engaged by knowing how to tell a good story and communicate key facts and information in fun and accessible ways. Hopefully you see my point that they all need each other and so this podcast aims to cover all aspects.

Okay - so now you know what science communication is, why on earth would you want to do it? If you're an active researcher in the lab, I know first hand that taking time to do some science communication means you are not in the lab, or at your desk working on your actual research, and it can sometimes be tricky to convince your manager that it is worth it. You might be wondering why on earth we need science communicators like me and so many others who aren't practising researchers themselves, or perhaps you're a non-scientist listening to this and you are wondering why you might want to engage with science communication yourself? There are so many reasons and benefits for you, your audience, your institute and so on by getting involved with science communication. But because I don't want this episode to be hours long if I listed them all, here are just 9 reasons why you might want to and you should try science communication:

The first one is to:

1. Be a role model in STEM

This one has always been really important for me and still is a key part of why I do science communication. I grew up in the South West of Wales and the closest I got to a scientist or a science festival or anything like that was my school science teachers, or maybe a trip to the doctor or dentist. There wasn't really anything like that anywhere near me. So it was important for me to show that people like me could do science as a day job, and now I want to show people the kinds of jobs you can have within science. It's not just about the research and the discoveries but there are so many other cogs in that engine, and I hope that others will learn that there are options for science careers for them even if that isn't research.

And it goes far beyond that, no matter how you identify, what your interests are and so on, it is so so important that others can see what people like them can achieve and their voices can be heard. You can help inspire the next generation of scientists and STEM professionals.

The next reason is to:

2. Improve trust in science and fight misinformation

By adding that 'human' element to science communication, it makes science and STEM more relatable to non-scientists and non-experts. By getting involved in science

communication, you are helping to put a friendly face to science and building that trust with whoever you interact with. We are facing a tide of misinformation right now, and by doing scicomm you can help fight that. You might shed light on the processes and the timelines that go into one scientific discovery, or you might help teach someone how to check if a piece of information is accurate. This and more is going to help make sure that the public are getting the right information and they know they can get that from trusted experts

Reason number 3 to do science communication is that it can help to:

3. Improve your communication skills to have a more impactful (research) career

Having the skills to be a strong communicator is going to help you in your STEM career whether that is a research role or not. If you can deliver more captivating conference talks, or more visually accessible posters, even write powerfully about your research idea in your next funding proposal. That is all going to help you become more impactful and successful. There have even been studies that have shown that if you tweet about your publication, that it is more likely to get cited by others.

As a PhD student, I also found that it helped me to get a better grasp of what I was doing and why, because if I could explain it to the person I was having a conversation with in the pub, then it showed that I really understood what I was trying to do. Being able to have those conversations with non-scientists could also help shape your research. You would get to know what society is interested in related to your research topics, what their concerns may be and adjust your research accordingly.

And all of this is just going to help you become more confident in your abilities too.

Another reason to do scicomm is to:

4. Empower debate and curiosity about science

One thing I am really passionate about is the way we teach science in schools, and the way people see science. Science can often be seen as having to memorise a load of facts when in fact its more of a method of discovery and wanting to ask questions. Many people think science stops at school if you don't go onto study it further at university, but I am passionate about helping everyone to realise that science is around them every day and it is central to our every day lives and so we should take an interest because it is directly relevant to us. Everything from healthcare, to cooking our meals, to operating our smart devices to listen to podcasts like this, to the reasons why you get certain species of bird in your back garden and endless other examples.

Doing science communication can help change the way people think about science and get a better appreciation for it. But it is also vital to share that science doesn't have all the answers. Scientists are always finding new pieces of the jigsaw and trying to find the right place for it to fit into the puzzle. Sometimes there is no right or wrong answer to a problem so encouraging safe spaces for people to share and debate thoughts is crucial.

Next on the list is all about:

5. Money and funding

I mentioned earlier about having communication skills is going to help you pitch your case to get funding for your next research project, but most research is publicly funded. Because of that the public have a right to know how that money is being spend and what it is contributing to. Funders might also want to know where the money they gave you is being spent and how, and research institutes need to be able to show their impact also.

The amount of money that different research areas can get can also be influenced by public interest in a topic. So, by doing science communication about the technology you are developing to clean up our oceans for example, that could generate a lot of public interest, and the field could be given a bigger slice of the pie to further advance what you are doing.

Reason number 6 is:

6. Explore other STEM career alternatives

Another reason that was actually really important for me. I didnt even know that science communication was a career option a matter of years ago, and academia and research isn't for everyone. Science communication allowed me to experiment with what I wanted in a science career that wasn't in a lab. It helped me to gain experience and skills I needed to get those jobs and it can do the same for you too.

Yet another reason why you might want to do science communication is to:

7. Share your impact and create societal change

A prime example of this is science policy. The research you do in the lab can be used as evidence for the government, at least here in the UK and I imagine in many other countries too. The evidence you could present to parliament is going to allow those with such power to make recommendations or changes to many things in our lives, or even influence changes in the law. Like how a particular drug could be used to treat a new disease that doesn't have a treatment, or the development of electric car engines that are more efficient and more environmentally friendly.

My penultimate reason is that you can:

8. Expand your network

Doing science communication of any kind means you get to meet many other people. This could be other scientists who might end up offering you a job, or you might work together on a collaboration. You can meet other science communicators and learn more tips and tricks from them and others who can put you up for opportunities. You get to meet with other non-scientist audiences and you can build relationships with them that could help you kickstart another scicomm project and so much more. The network you can create from doing science communication can help you with so many different things from jobs, to moral support and beyond.

The final reason to do science communication is that:

9. It's fun!

Getting to talk to new people about what you are doing, getting to learn new skills to share your science in fun and creative ways, the places you get to go, the opportunities you can create. Yes it costs time and money but the rewards and benefits are incomparable if you ask me.

There are sooooo many more reasons I could share. Everyone is going to have a different reason, but there is always a benefit to getting involved with science communication no matter who you are. The crucial thing is that you know why YOU want to do science communication, and that is what I want to help you with in the final part of today's episode.

So, I've shared these 9 of maybe the biggest reasons why you should bother doing science communication, but right now none of them are really going to be that personal and motivating to you. Even the one you are most relating to right now.

It is your job to work out which of these motivations is most important to you and your situation, but crucially - why! And that is something I want to help you to do in this first DIY section on the pod. For me, one of the most important tools you can have in your scicomm toolkit is your why. It can of course change and evolve through time, mine certainly has, but really hammering down on exactly why you want to do science communication is what is going to keep you motivated.

One of the most common reasons I would say that people want to do science communication is to tell the public more about their area of research, why it's important and why it's so cool. But that why just isn't going to cut it. I'll be honest, doing scicomm can be hard sometimes, especially if you aren't getting paid to do it, so you need to know why you are doing this so you stay motivated and your ideas and projects don't fall to the way side.

So, to help you find that real why that is going to keep you motivated and be a core tool in your scicomm toolkit, I want to introduce you to an exercise that my wonderful friend Prasha from Her STEM Story introduced me to. It's called 7 levels deep. You can find it at 7levelsdeep.com or I will add a link in the show notes. This exercise will ask you what it is you want to do and you might type in 'I want to communicate my research'. Click enter and it will ask you why that is important to you. Share your answer to that question, click enter and it will ask you why that is important to you. You can probably see where this is going now. By doing this exercise and really understanding your why for doing science communication is what is going to keep you motivated and most importantly inspire you to take action. I for one am very guilty of having an idea and just sitting on it for years, this podcast is one example of that. But sitting on that idea isn't helping me to improve my audio editing skills, or help me add some new tricks to my CV, or improve my interviewing skills and my scicomm as a whole. Making that really personal connection to science communication is what is going to keep you coming back

So once you have done that exercise, I want you to get yourself a piece of paper, or a post it note, or grab your journal. I want you to write out YOUR why for doing science

communication on it and put it somewhere you will see it everyday. Stick it on your mirror, or your desk at work, write it at the top of your journal every day or week, hell even turn it into the wallpaper for your phone. Put it somewhere so it can be a reminder to you of why you are doing it for when things get a little challenging.

It is also super important to review this fairly frequently. And even if you're not a scicomm newbie, get involved with this activity too. It is always good to come back to these SciComm Foundations of yours that I am going to help you build in this podcast, reflect on them and tweak them as you need, and of course make sure to visit them for each new project you start.

So go to some DIY right now, finish listening to the episode, find your why and stick it somewhere. I also challenge you to share your why in an Instagram post or a blog post, let your audience know your story and why you do what you do and share it with me

And that is that. We have reached the end of the very first episode of the SciComm Toolkit. Today we have covered the first of our SciComm Foundations. We know what science communication is, we know some of the reasons why you should even bother doing science communication and now you have, or very soon will have, the first tool in your scicomm toolkit and that is YOUR why.

Thank you so much for listening. You can find the show notes and of course the links to your resources for this episode on my website. That is soph.talksscience.com/scicommtoolkit. If you enjoyed this episode then I would love to know, send me a DM on Instagram. I'm at [soph.talks.science](https://www.instagram.com/soph.talks.science). I would love it if you wanted to take a few minutes to leave me a review wherever you get your podcasts and if you want to continue to grow your scicomm confidence and expand your scicomm toolkit then subscribe to the pod so you never miss an episode. The next few episodes we will continue to build our scicomm foundations as part of this mini series within season 1, but until then I hope you have a wonderful day whatever your plans and enjoy exploring your why for doing science communication. Bye