

So I'm Mark Webber. I'm a professor and group leader at the Quadram Institute here in Norwich. We're very keen to collaborate with groups all around the world, and we do that routinely. In this case, we're talking about our collaboration with colleagues in Pakistan, and that generally collaborations adds a lot of value to the work that we do. It allows us to translate our science and show that it has impact in other areas around the world. And this is a really good example of that, where we used our COVID sequencing ability to help with our colleagues in Pakistan to understand the epidemiology of COVID.

I'm Dr. Muhammad Yasir. I'm a research scientist at Quadram Institute, and I'm working with Professor Mark Webber. International collaborations is always beneficial because that provides a chance to interact with scientists from all over the world and share your skills and knowledge. And that helps in expanding the science the way-- wouldn't happen if we don't do the collaborations.

So in the case of our collaboration with our Pakistani colleagues then, we were able to help them with genome sequencing, which was a technology that we'd developed here early in the pandemic and something that we'd become very expert at. And it's not something that easy to get up and running.

So whilst they are very capable biologists and molecular biologists, we were able to give them a boost to be able to use this technology to understand the genomes of the viruses that were circulating in Pakistan. And that helped us understand where and when imports were happening in Pakistan. So that's really important for them locally, but it's also really satisfying for us to use our research to have global reach and benefit.

This collaboration is coronavirus, COVID-19 sequencing basically that was done for samples from Pakistan. And there were very less number of samples were done at that point. Sequencing was done for the very less samples from Pakistan, and this helped a lot in formulating the policies of Pakistan. And it impacted not only in Pakistan, but also the world around because of the travel policies were impacted by our work. So it is a huge value we got it done.

So we've learnt various things from the work that we've done with our Pakistani collaboration. So it's been really, really nice working with a group of people that are very good public health microbiologists and share lots of the same problems and challenges that we do here. And specifically in terms of COVID, what we were able to do was help understand how COVID had come into Pakistan.

And we could see that it'd been introduce multiple times. And we could see where and when the transmissions had happened. And that then fed into giving an evidence base that the local public health officials are able to use to change travel rules, et cetera, to help manage the disease in Pakistan. So that's really, really impactful for us.

This collaboration was one of my few collaborations that I have done internationally. And it has taught me a lot about the communication, and setting up the paperwork, and how to communicate with all the parties, not only that are people involved in the research, but also doing bureaucratic work. So it was very interesting and learning slope for me.

So the Quadram Institute is a research institute, so we tend to work with people in the collaborative basis. So it's much more powerful for us to be able to be involved in a new piece of research where we're a collaborator, rather than acting as a service provider. So that means that we're actually involved in designing the work and helping to work out how best to do whatever is needed for the particular piece of research.

The collaboration provides a chance to learn both ways and improve the science. And it ultimately helps the both parties. But in the service provider, you are just providing the particular kind of work in exchange for certain benefits. So I think this collaborative work has benefited us much more than the service work would have.

Working internationally is really satisfying, and it's really powerful, and it shows that the work you're doing has reach, and it's not just something that's locally of interest. So for anyone thinking about setting up an international collaboration, then it can be really, really worthwhile.

I would say that you need to communicate very clearly at the front with who's going to do what, make sure that you have all the ethics that you need sorted, make sure that you're going to be in accordance with the Nagoya Protocol about taking bits of DNA from different places and what you can and cannot do with that. You probably need to agree who's going to have which roles in writing up any outputs, et cetera. So there's a bit of work up front to set up a good collaboration, but then it can be really, really rewarding.

For international collaborator-- for international scientists who want to start their collaboration, they need to look for the area of expertise where they exist and they need to contact a particular group. And they need to highlight the benefits both the parties, the collaborators would get from that collaboration. And they need to highlight the areas they will be contributing, the way-- and it would benefit the science, and its impact on the humanity and health.

So the international collaborations we have come about from various means-- so often, that's via someone we already know, who comes to us and asks for help in a particular project. Sometimes its we will meet someone at a conference, or we will reach out to someone who we think has a particular need or we could work with, but often it's people coming to us. So we have built a pretty good reputation in the things that we do. So often we get requests from people to work with us. So our ability to collaborate with groups around the world in the current pandemic has been really important.

So we've been able to work with people from various parts of the world in lots of different countries that don't have the access to the facilities that we do. And we've been able to then help them, in almost real time, understand how the pandemic is evolving in their particular part of the world, and give them information that they can actually act on to make change to their public health regulations. So COVID needs rapid responses, and we've been able to do that, and actually provide kind of real time information to help manage the pandemic in lots of countries.

I'm a student of University of-- I'm a previous student of the University of Health Sciences Lahore Pakistan. And the professor from that university contacted me as this pandemic started, as he knew about the sequencing capabilities of Quadram Institute. And he knew me, so that's how it started. And then I start talking, and then I talked to the lead roles at Quadram Institute, and they are happy to help in this particular scenario.

I think as we all know that the COVID-19 is not border bound, it has spread across the borders. And these international collaborations between different groups has helped a lot in containing the pandemic and making the way to contain the virus, and understand the virus and its spread, and making the policies accordingly to manage it.

Working internationally is not necessarily that easy. You have to potentially overcome time barriers, language barriers, there's lots of logistical things that need to be put into place. So you need to make sure that you have lots of paperwork sorted out. So these are things that once you've worked at worked on one or two of these collaborations, you know what you need to do and they become easier. But there are challenges and barriers, so it's not something that you can just start immediately. There is a bit of work needed to get all these things in place.

The biggest challenge I have seen in setting up the collaboration is the lack of consistency in the documentation process across the different countries. And there is MTA that you can set up between the two institutions, but there's Nagoya Protocol. And there is no single way of like dealing with it across all the countries. And there's a huge variation.

And I think for smoothing up the collaborations internationally, it will be huge benefit if we could do something regarding that Nagoya Protocol to set up an online system where every government is involved, and it can be done online, and if they have any questions, that can be answered. And I think that would be a huge contribution.