Communicating sciences
Communicating Science

Dr. Richard Holliman
Hi I'm Rick Holliman, Chair of SH804. I'm here this morning with Vic Pearson who works as a research fellow at the Open University's Planetary and Space Sciences Research Institute. We are going to conduct a short interview to explore some of the ways that she acts primarily as a producer of science communication. Vic's research interests focus on the synthesis and evolution of extra-terrestrial organic material. Could you put that more simply Vic?

Dr. Vic Pearson
Okay so basically my research is looking at the carbon based molecules that are within meteorites and meteorites are fragments of asteroids and we are looking at the carbon based molecules to work out whether or not they may have contributed to life on Earth or whether or not they contribute to the processes that go on in the early solar system.

Rick
So that's your research interests, Vic, but part of the reason to interview you is because we are also aware that you have an interest in the teaching of science communication, in engaging with publics about science and also working as a research scientist and there's currently quite a lot of talk about the important of scientists learning to communicate effectively through a range of media forms. So what would you consider to be some of the ways that you communicate science? Which ways are important to you?

Vic
Well, of course the primary way that we communicate science is through the publication of journal articles which, of course, is the traditional way of communicating between scientists. But in terms of communicating on a day to day basis email is probably the most important form of communication we have now. And through email, of course, it means that you can receive mailing lists with information on, you can also subscribe to RSS feeds from blogs which means that you can get extra information that you don't have the time to seek out yourself.

Rick
So you set those up automatically, yeah?

Vic
Yeah, you can set them up to be deposited into your in box from a blog that you might, may have interest in. For example, we've used blogs to keep up to date with news within the field and we can set that up to be put into an in box, your email in box, and read it when you have time to read it.

Rick
Okay.

Vic
But also we use file transfer sites, such as FTP and also Gmail to transfer large documents between scientists so that they can look at each other's papers as they are writing them. We also use internet chat or internet relay chat so you can have instant communication which, of course, we used to just use for fun but now we actually use it for communicating between scientists. A lot of people these days use Skype as well which is another way of communicating on the internet. Of course there's also video conferences and telecons and here we've even had a European series of lectures that have been done by video conference, with the lecture being hosted at a different institution and that's all been done over the internet as well and streamed into our, into our computers at our desks which has been fantastic. I

also have an interest in news and things such as virtual learning environments and on-line classrooms to communicate not just within the scientific community but also outside with the general public. So there's, there's quite a lot of ways that we, um, that these days we communicate beyond just the traditional publication.

Rick
A huge number actually.

Vic
Yeah.

Rick
So given that wide range of media forms that you are interested in, which would you say are still most important means of communication for you as a scientist?

Vic
The journal article, without a doubt. It's the way that we communicate with our peers, it's the way that we communicate with the rest of the scientific community and, of course, there's such an emphasis now on publications because ultimately your publication adds to your publication list which adds to your, the chances of getting a promotion or the chances of getting a better job and also leads to more funding within your institution. So, in terms of the most important it's definitely still the peer reviewed article.

Rick
Okay and the notion of peer review still obviously holds currency for you. So you said that you have an importance in actually communicating through that publication but how do you also work as a reviewer behind the scenes?

Vic
Okay, well the whole issue of being a reviewer for a journal is very interesting because of course in order for you to have your papers published and for them to contribute to your potential promotion you need to reciprocate and take part in a review process of somebody else's paper. So basically a journal will, a journal editor will ask you if you are willing to review a paper and, if you agree, you are sent that paper and have a period of time in which to review it. You're adding validity to the fact that that paper will then be published and you give a critical review, you can accept or reject or give a number of corrections but it's a really important part of the academic industry.

Rick
But the thing which always interests me about that is you're not paid to do that are you and you don't necessarily have a specific allocation in your work schedule for doing it so, so why is it so important to you to do that?

Vic
Well it's really important because it's almost a pay back for other people reviewing your papers and, no you don't get paid for it but in terms of it being part of academic life, it's essential, that everybody contributes to that particular process. So, I've reviewed papers from when I was a PhD student to up to now and it's really important to (a) get involved in that process so that people can see your reviews but also so that you keep on top of some of the new research that's coming out by being sent that perhaps before it's even published.

Rick
So it's an essential part of being a research scientist?

Vic
Absolutely essential, yes.

Rick
Yeah. Okay. So that's a little bit about your, your research activities in terms of communication. You're also obviously interested in, in teaching aspects of science

communication and also being an active practitioner in terms of science outreach and public engagement. Could you say a little bit about how you communicate in those different ways?

Vic
Okay, well in terms of, teaching science and science communication, the most obvious way that, especially at the Open University, that we reach our students is again using email and also using on line forums. And it's really important that you be able to reach your students that way. Obviously it's not so easy to get face to face in the same way it's not so easy to get face to face opportunities with your peers, they could be in other countries, but the same goes with students but of course these days there's so many online technologies available. We've had the option to use some online classrooms. We've trialled some different technologies to be able to do debating on line and all of these things can ultimately add to the student experience. So as well as traditionally writing to your students, it is also great that we can now use these online technologies. But in terms of communicating, I mean, I do all the typical things like I'll go and give presentations at amateur societies, I'll go and do school talks. I'll go and do exhibitions in various places. That's all fantastic and I love doing it but because it costs a lot of money and it takes a lot of my time and of course this isn't really 100% part of my research job, it's important to find new ways to do that and one thing that we've done is look at some online technologies, such as virtual learning environments and we've used, an online classroom and we've managed to reach 100s of students, school students just from the comfort of our desk and our offices here in Milton Keynes which has cost us virtually nothing other than giving up a few lunchtimes and that means that we are able to communicate science to a much broader geographical distribution of people than we were ever able to before.

Rick
I mean one of the things which clearly comes across is your enthusiasm for, for communicating in these different ways. Do you think it's actually helped or hindered your career in this respect?

Vic
I think probably a bit of both. I think it's helped because it's actually opened up a whole new area, for me in terms of communicating science. I have taken some eLearning courses so that I can familiarise myself with new techniques. I was worried I was perhaps getting a little behind the times. But I feel a bit more on top of it now but also it gives you a much more holistic view of science and what's going on outside your own academic community which is great. In terms of hindering, it does take a lot of your time, um, you have to prioritise which tools you might use for different tasks. It also means, in terms of communicating science to the public, it does take a lot of your, your research time away and you end up doing a lot of it in your own time. And also communicating science to the public is not part of my research so you do often have to do it unpaid and on weekends which is great because I don't mind doing it and I really enjoy doing it otherwise I wouldn't do it. Yeah, so I think a bit of both. I don't think it has really hindered but there are some downsides.

Rick
Okay. I mean, one of the things which interests me is that you've obviously, you've got such a wide experience in terms of communicating face to face, in terms of communicating using different forms of online media, in being involved in research, in teaching and public engagement work, but it seems that the peer review journal is still the currency in science. Do you think that's true?

Vic
And I think the word currency is spot on. There's a much more emphasis on the publication being needed for financial gain perhaps than ever before. It was perhaps always used as the pinnacle of science, you published your paper in order to communicate your science so that you could have ownership of that research and those results or the theory that you are publishing, whereas now it's very much driven, as a currency like you said. It's a way of getting funding, it's a way of promotion, so it's a kind of different way of looking at the same process and we shouldn't forget that peer review also includes review of grant proposals, of course, because we've only talked about peer review of journal articles but, equally when you

write a grant proposal that would be sent to a set of your peers to review, so ultimately peer review does control whether you do or don't get a grant funded.

Rick
Well that's great, Vic. Thanks very much for talking to us.

Vic
My pleasure.