

Participant #10
Field: Chemistry
Rank: Reader

Q: Why did you decide to become a scientist?

A: Excitement about the field at a really young age. As a child I wanted to become a scientist and that's basically carried through.

Q: What about science was exciting to you as a child?

A: Discovering stuff is always interesting. Complicated things, I wanted to learn more about the. Curiosity.

Q: Do you think curiosity is a main characteristic of a scientist then?

A: Yes.

Q: Do you see curiosity as driving other scientists, perhaps your colleagues, to do scientific research?

A: Absolutely, yeah. I don't think people are in it for the money, because they could probably earn more elsewhere.

Q: What drives you to do scientific research?

A: Well, it one way it's the satisfying that curiosity. An interested in doing something that no one else has done before and discovering new things. In some way also helping people in a way. Also, science related in a way, I also like teaching at the university.

Q: Why did you pick chemistry?

A: I wanted to pick both chemistry and physics when I started, but eventually picked chemistry. I don't know actually. It's quite difficult to say. It's always been chemistry rather than biology or physics when I was younger. Maybe it's the lab work in some way, the type of work you do as a chemist.

Q: When you're getting ready to publish, what do you look for in a journal when deciding where to submit?

A: It's mostly that I want to read a broad readership, but I want people to read what I write so I want to reach the right people. So, that typically would be a certain community, scientific community, sometimes the general public. But that's most of an exception, I'd say. Only some

of our work is really interesting for the general public. It sometimes can be very technical, very specific. As a secondary element it's the impact of the journal, because that's the basis of how we are assessed basically on a metrics based system judging our performance would look at impact factors.

Q: Do you care about impact factor because you know it's important in your assessment? Or do you think a higher impact factor journal will also provide you a better readership?

A: To some extent that's decoupled. For example, there can be very good scientific work, which you wouldn't necessarily publish in the very high impact factor journals. You won't be able to publish there, because they aren't interested in the very technical work, but nonetheless important to publish and you can see that in the citation rates the impact factor of the journal doesn't necessarily correlate to the citation rates. Often enough you have papers that are in a respectable work journal and they get cited a lot and sometimes you have papers in high impact factor journals and actually they're not cited that much. Maybe that's partly because in a very high impact factor journal you don't necessarily have the space to expand your idea, explain properly what you've done. A longer technical paper gives you more possibilities there.

Q: Do you think the journals with shorter page requirements limit your ability to effectively communicate your scientific work?

A: Well, I think, you do it in a different way. Often there is no limit on the supporting information, for example. So, what people do is condense the main message in four or five journal papers. But then they got excessive amounts of supporting information. I've reviewed papers that have 80 or 100 pages of supporting information. And you kind of start to wonder, if you need so much supporting information to support the claim you're making in the main paper, a couple years ago people would have published a large journal article in a not so fancy journal but have no or very limiting supporting information. In the last couple of years there's this strange shift in putting very important information about the methodology and all this into the supporting information, which is actually a very important part because it helps people to judge whether the work you do is sound. Most people will only look at the main text of the article and think, 'oh, the rest is all good.' But of course, there are cases where people find evidence of fraud, especially, in the supporting information, because people don't pay attention to preparing it.

Q: How much do you think Impact Factor plays into how you are evaluated as an academic scientist?

A: I think it [impact factor] isn't unimportant. It has a role to play. I think here at [university] there's a sense of the real importance. There are some very respectable scientists that do not publish in Science or Nature, but are still very good at what they do. It depends on the area of research to some extent. There are topics that are hot at the moment and they probably find it easier to be published there.

Q: Do you feel pressured to publish in high impact factor journals?

A: There's an ambition to do that. Not necessarily a pressure. It isn't that I feel my institution is pressurising me to publish in a journal with an impact factor of x or y. I think I'd be disappointed if I didn't do that on a more or less regular basis, but as I said, there has to be a balance between high impact factor journals and not so high impact factor journals.

Q: Do you feel a pressure to publish in general?

A: I do think there's a certain pressure to publish. In one hand, you kind of, it's almost like a deliverable. You basically get the money for the research you do, not in a deliverable enough output obviously, so you need to show a) that you've done something with the money and you also want to show the community what you're doing because you think the work you're doing is very interesting for the people as well, so you want to share that. And yeah, I suppose there's a certain number of papers I'd expect to publish in a given year. And that basically varies from person to person, field to field. And there's also a perhaps more fundamental decision that people have to make when it's, some people would publish more smaller findings more often, and other people would do one big paper and publish a smaller number of papers that are smaller, more comprehensive, and more meaningful in a sense.

Q: How do you feel about the phrase "publish or perish"?

A: It's been around for decades. If you stop publishing for a couple of years, you'll stop getting noticed, you'll probably find it more difficult to get grants and you'll indeed perish. But I haven't given it much thought really.

Q: Are publications the focus of your appraisals or assessments for promotion and tenure?

A: I think it's focused on publications and research income, but also on teaching. Here at this institution teaching and other aspects of student welfare have become important and I don't think you'd be promoted to any level as an academic if you didn't show good teaching performance. I have seen people not being promoted, even though they had an excellent paper output, excellent research income, but the teaching side didn't really match.

Q: When you began thinking of pursuing science academically and as a career, perhaps around the time you were a teenager, did your idea of what being a scientist was differ from what your job is now?

A: I think it's pretty accurate. It's strange when you're younger you have relatively vague idea of what it means normally. But in this case it matches pretty well. When I was 19 or 20 or something I applied for a fellowship and I was asked about the career perspectives and I said, 'oh, I'm going to become a professor.' And they asked me what it mean, and I was like, 'oh, research, teaching.' But it kind of matches. And I did a couple of placements while I was still at school, at university, so I knew what work in a research environment was like.

Q: Were you surprised with how much admin that comes along with the job?

A: No.

Q: Did you expect it then:

A: Yeah, you could say 1/3 teaching, 1/3 research, 1/3 administration, but I think probably in this department it's pessimistic in a sense, because I think people do more in terms in teaching and research, on average.

Q: So, you don't think admin takes away from your ability to do scientific research?

A: Oh, it does. But as I said, it's part of the job, really. For example, if I had a research professorship or research chair somewhere of course I'd get more research done, I would get more funding in, but this is just part of the job.

Q: Are you familiar with Open Access publishing?

A: Yes.

Q: What role do you think Open Access has in science?

A: Well, I think, in general it's a laudable development. There have always been Open Access options, repositories and I think people have always been very open about sharing their research and their results. As for the different Open Access models that we have now, I don't know, I'm not so sure whether making the results openly accessible so much of a prime motivation there. For example, the gold Open Access option is quite an expensive one if you think about it and if it's just making research available then you can just put it on your website or put it in a repository something you wouldn't need this talk about green, gold, whatever. It's one way of extracting money from the public sector, because we now have to pay for Open Access. If we did go down a green route, or we made everything available, that would be trouble for the publishers.

Q: Is Open Access then not a criteria when selecting a journal?

A: No, we haven't done that much. For all the institutions I've worked at I had very good access to journals and then of course the prices went up and up and up, and even institutions like [university] have to think about which ones they actually subscribe to. We're doing it more and more now and I can see colleagues in less well off institutions having a problem accessing these articles and of course there is industry. Companies usually don't subscribe to journals and I have colleagues who have contact me about papers and 'argh, can you get that paper for me?' because they don't have access.

Q: Do you archive your articles?

A: We started using the college repository. I typically make my reprints available to those that contact me. And then of course there is material outside the research article, such as presentations and stuff like that, which may contain the same research but not in the form of an article.

Q: What are your thoughts about Open Data?

A: I have mixed feelings about that. There will be certain data which are easily accessible and readable almost. But when I think about our work we generate gigabytes of data a day, which is literally just numbers. Without additional documentation those numbers just don't make any sense. So you then have to analyse those data, which can take days and then generate huge amounts of secondary data. So you distill all this down and you get some meaningful results. Without the context the primary data are not meaningful. So, I see a certain risk that eventually we'll be required to make those available and then people will realise that they don't make any sense and then we'll be required to make them available in a way that do make sense, which means extra work for us to provide that context. So, that's a bit of a fear I have. And that's not because we're cooking our data, it's just because it means potentially a huge additional effort to make this work. Of course once you make all your data available people may also start to analyse the data in the wrong way, and you end up perhaps in the social media combatting people who have misanalysed your data just because they don't know what they're doing. So, that's a second thing. Having said that we are about to submit a paper where we do want to make at least a sample of the original data available, because part of the paper will also contain some analysis algorithms so people can then use that algorithm and run it on the raw data and hopefully get the same result as we do. And so I can see that there is a certain value in that, but generally making everything available, I don't think makes much sense and I don't think the publishers have the resources for doing that. One paper could be terabytes of data.

Q: Do you think your value as an academic scientist is dependent on your publications and citations?

A: I think the citations are probably a reflection of your value in the [scientific] community, because if you're highly valued by your colleagues then you are cited more, I think, in general. But of course it depends, you cannot compare the sheer numbers, you have to take into account the average citation rate in a particular field, it depends on the size of the field, of the work, are people able to publish many articles in a short time to generate more citations, but then there are several types of work that take an enormous amount of time. Then perhaps one paper a year is already great, whereas in other areas people publish academic studies 80 papers a year. How do you compare that? That's a different question.

Q: Do you think your colleagues value you as an academic scientist based on your publications and citations?

A: I wouldn't think so. I think citation rates are in some ways a reflection of your status within the community. And also the novelty of the work. There are people who respect you as a scientist very much, because you're very knowledgeable, but that doesn't necessarily mean you publish a lot of original research. So, it's a very complex thing. There is some reflection in that, but it's not the whole story.

Q: You seem to have a big picture view of academic science.

A: I think the pendulum is swinging back. I think a couple years ago I think there was more focused on those metrics in terms of promotions, for example, people would look at the impact factors and all that, but I'm sensing a reversal of that trend and people are taking a step back and having a look at what it all means.

Q: Why has that changed in the last few years?

A: Because it doesn't make sense. [laughs] It just doesn't make sense to just look at those numbers. They give you some information, no doubt, and we just went through this REF assessment. And some people said, 'Oh, why don't we do a fully metric based system.' Yeah, you can do that, there's an argument for it, but you'd have to look at several different metrics in order to get a meaningful picture.

Q: Why do you think universities tend to use metrics for evaluation?

A: These kind of assessments are usually imposed on the community are usually imposed by the government, for example. Of course they like that kind of assessment, because it's easy,

it's easy to quantify, how do you quantify someone's contribution to the community, well, you could collect lots of opinions, but how do you translate that to something you can relate to funding for example. So, I think it is a tool and the motivation for using that tool is because it's easy and more manageable.

Q: Are there any things about how you're evaluated as an academic that you would like to change?

A: No, I think it's fine. I don't feel much pressure from the institution. And if it were the case, I might say I would like to see more focus on this or that or less pressure, but I don't think that's the case.