

15 minutes to develop your research career

Podcast Transcript

Episode 9: 4 Skills for researchers of the future

Rachel Cox: Imagine the research world in 10 years' time, what does it look like? What skills will researchers need in the future?

Claire Doffegnies: This is the [Taylor & Francis](#) and [Vitae](#) podcast on developing your research career. I'm Claire Doffegnies from Taylor & Francis.

Rachel Cox: And I'm Rachel Cox from Vitae.

Claire Doffegnies: And in this podcast, we'll be talking about the research of the future.

Rachel Cox: We'll be considering questions such as what will the biggest challenges be to the way in which research is conducted.

Michael Matlosz: Far too often in the past, science communication has not been communication, it's been information.

Rachel Cox: What kinds of jobs will researchers be going on to do after their PhD.

Gabby Silberman: What falls on our shoulders is to make sure that they imagine those roles beyond just academic research.

Rachel Cox: And what skills should researchers be developing now to make sure that they're ready for this research future.

Margaux Kersschot: Digital skills will definitely be useful, but also, everything related to open science, open access, this kind of things.

Gabby Silberman: I'm Gabby Silberman. I'm director general of the [Barcelona Institute of Science and Technology](#) in Barcelona, Spain.

Michael Matlosz: Yeah, my name is Michael Matlosz, and I'm the president of [EuroScience](#), the European Association of Researchers.

Claire Doffegnies: What skills do you think will be required of researchers of the future?

Michael Matlosz: One single skill, I believe, the ability to dialogue, be curious about what other people are doing while maintaining your own specificity is what we really need.

Gabby Silberman: I totally agree with that, but I would expand that we also need to increase our skill in communicating what we do and how we do it to the general population.

I think that decision-makers and society in general needs to have access to what we do at a level that they can understand and they can connect the dots of why it is important to support the scientific and the research enterprise.

Michael Matlosz: Far too often in the past, science communication has not been communication. It's been information, a one-way communication.

And so, we need to find mechanisms for science communication that are two-way mechanisms where the scientific communities are not only explaining what they're doing, but they are also listening to what others think about what they're doing.

So, this is quite a challenge, and I think that the better communicators we can be by interacting not only in speaking, but also in listening, the better we will be in getting our message through that this is a value to society to do this kind of activity.

Rachel Cox: What do you think is the role or perception of researchers in society today?

Michael Matlosz: What is perhaps somewhat unfortunate is that the general public is more interested in science under the label of expertise, much rather than science under the label of an activity using a scientific method.

Now, obviously, science as expertise means I'm providing you an answer to a question. Science as a method of activity and research means we are looking at something that we are not sure about. We are putting a lot of value on uncertainty, on debate, on contradiction, on checking the results of others, of thinking about alternative hypotheses.

And since the society is asking very often for scientific truth in the sense of judicial truth, it's not so easy for scientists to respond to that when their day-to-day activity is not that activity, their day-to-day activity is the other one, which is scientific uncertainty, controversial approaches to different hypotheses, rechecking the work of other people to see whether it's compatible with current theories. And this leads to doubt. And this leads to an ambivalence in the way scientists are allowed to speak.

Rachel Cox: How do you imagine this might change in the future?

Michael Matlosz: I remember when I was younger, we would see people on television commercials, you know, in lab coats to show that they were scientists, and people don't do that anymore because it actually creates, in a public opinion, to a certain extent, some suspicion. And so, I think that this means that scientists are now coming down from their pedestal and going into society. That's probably not a bad thing.

Gabby Silberman: I would add to that, that this coming into society, it's forced by the current overproduction of PhDs and postdocs, or production in the sense that not every researcher that we train will wind up in an academic research position, it's just not enough of them.

And so, a large percentage, in some cases, 80-90% of those who have been trained, they've gotten a PhD, even done a post-doc will wind up in a position within society being productive. And that, I think, is an altogether good thing. What falls on our shoulders is to make sure that they imagine those roles beyond just academic research.

Inger Mewburn: My name is Inger Mewburn. I'm an associate professor at the [Australian National University](#) in Canberra. My role title is director of research training, and I run [The Thesis Whisperer blog](#).

Claire Doffegnies: What role do you think digital technology plays in academic life? And can you give us a few examples as well of how digital technology is used in academia?

Inger Mewburn: Digital technology is used for both producing research and for publishing it. I think that it's evolved massively in the last 30 years, so it's ubiquitous throughout all of academic life. So in publishing, of course, our journals moved online some time ago, but blogging has become really huge, popular way of disseminating research and talking to each other as a community and sharing knowledge. And then, we've got social media, obviously, and academics picking up and circulating their ideas on social media and also, just having conversations.

And I've met a lot of people at the conference here that I have known on Twitter for over 10 years, and it's the first time we've met in person. That's just like picking up a conversation that you had with someone last week. So, it creates a kind of intimacy.

In my own research work, I'm very big on every kind of digital tool that I can use. And the latest thing I've been doing a lot of is machine learning. So, that's a pretty hardcore big data, and learning and using a lot of new tools is it is a constant challenge.

Claire Doffegnies: Do you think that all researchers should be embracing digital?

Inger Mewburn: Yes and no. I've been, for my sins, tasked with teaching people social media. You can't see the air quotes there, but... I hate teaching people social media. It creates so much fear and uncertainty and doubt. And I do have sympathies for women of color, women talking about controversial topics, men talking about controversial topics, people who really attract the troll brigade. I've never had that problem, but people who do controversial research attract a certain amount of attention, that's really worrisome.

And so, the risk of doxing and all that kind of thing, I can really understand why people avoid it. Definitely when you look at it statistically, if you do research and you write papers saying conventional journals, and you want them to be read, you need to be on social media. And a lot of people don't like that pressure. But it's just pragmatic to accept that there's a certain sort of niche marketing problem that is around academia, and that social media as well adapted to that.

Claire Doffegnies: What are some of the new ways in which you see researchers communicating their results using digital technology?

Inger Mewburn: YouTube is huge. YouTube of papers. I get a much more readership through my YouTube videos of my papers. In many ways, you can do it. You could just simply talk over a PowerPoint deck.

There's plenty of screen capture software. You can have yourself recorded at a conference. University's office studios sometimes help to help you make videos, and you can make them look quite professional really easy, quite a low cost. And we're moving into the YouTube generation.

Claire Doffegnies: What are your tips for academic blogging?

Inger Mewburn: So, interestingly, I haven't formerly announced this, that I'm slowing the thesis whisperer down. It's 10 years now. And my tip for it is you have to have absolute processes and procedures in place. You've got to run it like, and learn from our friends who run journals and our friends who run newspapers. They have processes that keep the blogging going. So, if you want to have something as professional as The Thesis Whisperer has been, it's a lot of investment in times and systems and expertise.

Other than that, I'm happy with everything I've done. Actually, I've made lots of mistakes. I've published things that have been controversial. I've published things where I've said things that people have really pulled me up on and questioned, and that's actually been really valuable to me. So I wouldn't change that because the times that people have questioned whether I've culturally appropriated something, or whether that I'm speaking about a minority in a way that is appropriate or not, that's been really good for me and for my own development of my work. And so, that's a risky take as a blogger, and I think that's worth taking.

Claire Doffegnies: What skills should researchers be developing now to make sure they're ready for the research future?

Inger Mewburn: If I was starting my PhD now, I would learn to program. Anything, anything that teaches you the logic of programming, I think being able to make your own digital tools, even just to be able to, like make a spreadsheet, do what you want. The logic, the logic of programming is a really valuable thing to know how to do. And I think just to have that skill would be amazing. It would make your work so much faster.

Margaux Kersschot: Hi, my name is Margaux Kersschot. I'm a policy advisor at the [Antwerp Doctoral School from the University of Antwerp](#). And I'm also in the advisory board of the [European Council of Doctoral Candidates and Junior Researchers](#).

Claire Doffegnies: So there's increasing discussion, at the moment, around the societal impacts of research and making a difference beyond academia. So, can you explain what this means, and also, why it's important?

Margaux Kersschot: Yeah. Let me just give an example of the way in which research can have an impact. So yesterday, there was a... One of the competitors on the three-minute thesis competition, and he explained that doing exercise before breakfast increases health benefits a lot. And so, any random persons who wants to work on health and thinks, "Okay, I should do some exercise," might have an interest in knowing this and think, "Okay, instead of just doing it in the evening or after breakfast, I'll go running before breakfast." So, that's just a very simple way in which knowing results of research can help societal actors. It can help people in their daily lives.

Rachel Cox: Do you have any tips for researchers looking to work with businesses or industry?

Margaux Kersschot: Yeah, so I think first of all, have a look at your research project, and is there a way you can include collaborations with business or industry? It can be really in any type of way. It can be just by contacting them for information, interviewing them.

If you're in more social sciences and humanities, by looking in terms of product development, basically, it can mean anything, but just looking and exploring what's your research about and how could you include business in that. It could also be, for example, by including them in your doctoral advisory committee, if you have one, depending on the country in which you're doing your PhD. Or just having them as an external advisor for the projects, and this kind of things. And then, also, just engaging with them, going to career events where they present their companies, this kind of things, I think, can be very useful.

Claire Doffegnies: And what about researchers wanting to make a difference to policy?

Margaux Kersschot: Yes. So, for them, I would definitely advise them to get organized into associations of researchers and become a member of their national association or start one, or it can also be at a university level, and then, really just form a community and start monitoring the policies in your institution.

Start looking at what's happening at the national level and become a member of [Eurodoc](#) which is monitoring policy at the European level. And that's really a way that you can get into policy work because you're kind of an interest organization, for a good cause. So, it's okay.

And you're working on research in higher education policy. And then, you can switch to other policies if you're interested. So, it could be on trade or on the regulations of the product you're developing, pharmaceuticals, anything basically. But that's a way to start.

Rachel Cox: Can you tell us a bit about the different career paths that are available to researchers, and also, how do you think those are going to change in the future?

Margaux Kersschot: All career paths are basically available to researchers, because they all have very valuable skillsets. The typical careers are either to do something with the research methods and the skills that you've gained.

So really, becoming a researcher in any type of organization. It can be for a government, it can be for

an advocacy organization, or for a company. So, you can do the research type of work.

You can also move into things that are close to your topic. You can also just think about what are your passions.

Claire Doffegnies: Are there particular skills that you think researchers should look to develop now to make them ready for the future?

Margaux Kersschot: Digital skills will definitely be useful, but also, everything related to open science, open access, this kind of things. And then, there are the inter-relational skills, the communication that will... And the critical thinking, they will definitely be important. And as the last one, project management. That has also been identified as one of the skills that they could develop more.

Claire Doffegnies: That's all for today. Thank you for listening. We'll see you here next time.

Speaker: I'd like to tell you about a new podcast series, How [Researchers Changed the World](#), supported by Taylor & Francis. The series highlights the real-world impact and the people in stories behind great research.

To find out more, go to howresearchers.com or search 'how researchers changed the world' on your podcast provider.