



Dr Ben Oldfrey

Profile:

Dr Ben Oldfrey is a lecturer with the Global Disability Innovation Hub at University College London in the UK, primarily working on the FCDO AT2030 programme, looking at models of AT provision for low resource settings globally.

His work is centred on the opportunities for local production systems and innovation to plug gaps in AT services, with distributed manufacture, repair services and sustainability strategies being key topics of interest.

He also conducts more fundamental work on soft material printing, building on his PhD which combined the development of hyper-elastic nanocomposites with deep learning algorithms to produce soft skin-like sensors for prosthetic and orthotic applications.

Transcript:

[00:00:00] Hi, I'm Dr. Ben Oldfrey. I'm a lecturer with the Global Disability Innovation Hub at University College London. And I work primarily on mobility looking at prosthetics, orthotics, wheelchairs on where localised production systems could better facilitate provision of these items globally.

[00:00:18] That's one field of work. And then I have another stream of work that looks particularly at the skin interface. So where devices touching the body, comfort is instantly a problem. We look at more fundamental materials work developing soft materials, intelligent, smart materials that could improve that question of comfort and a question of tracking interaction with devices in general.

(Voiceover) Can you share why you think it is important for your research to have diverse inputs?

[00:00:53] Absolutely. So, diverse inputs is critical and is being recognised much more widely in the development of product products and services. Previously when both research and product development has been done, when things have not involved many different stakeholders at all problems that could have been found out at that design stage, but they suddenly arise later on and suddenly a barrier that could have been solved isn't.

[00:01:23] And one of the reasons the sorts of problems that, that arise of that nature they're often more complex than say one, one individual interaction. For example the design of a new prosthetic device for a user we might address many of the problems that I've mentioned comfort earlier that could be made to make a device comfortable.

[00:01:48] But if that device isn't really, it doesn't fit in the system in which it needs to be provided in it just isn't viable and it won't make it to market. We need to be we need to be investigating and developing products with these diverse inputs and a range of different stakeholders.

[00:02:10] And I, what I, the one way in which I like to think about it is, We're more and more starting to engage the users of assistive technology in the design of them. That's critical, but I still feel like that's almost step one in this diversification of stakeholder input. Also important is to think about more of the steps of the way in which a device might be provided and the system in which it's going to and there's many stakeholders within that system that and that will have a perspective on how to make that product viable.

[00:02:47] For example, allied health professionals physiotherapists, occupational therapists, they're often not in co-design groups. And we're looking to change that as, yeah, as we see them as important figures, as well as users themselves.

(Voiceover) How have you used diverse participants or co-design in your research?

[00:03:04] Yeah. An example is where we are we're, developing bespoke products in Nepal and one that's to take a step back on how we actually got to that workstream at all. Is the fact that we wanted to work on developing some local innovation capacities in country. Now we had lots of ideas on that, the GDI hub and our program AT2030. We've worked in lots of different countries.

[00:03:34] We've got experience across various aspects of the provision system. But we'd never really worked in Nepal. Our first step there was, even though we had some ideas, we wanted to put together a community of practice in Nepal. We called them the Enabling Fridays community. So Fridays is a day where people have a little bit more extra time in Nepal and could give something, maybe half an afternoon, to developing and thinking about the problem of the provision of assistive technology and disability more general in Nepal.

[00:04:06] So we developed that community of practice and that involved different stakeholder groups people with disabilities of varying, various kinds other stakeholders within the provision system to try to map out some of the things we could do. And we were interested in localised production because we see that as one of the things that could facilitate things that a global system can't.

[00:04:32] And particularly complex needs is something that can't be addressed very well by global imports by a global system of mass manufacture and large scale activity, which is vital, but it leaves these gaps and complex system. Complex needs is one of those gaps. So with these bespoke product developments, we looked at trying to address some of these complex needs and develop innovation capacity at the same time.

[00:05:04] In order to develop those products, we put together a team co-design team that touched upon more of the system of provision than we see as often is the case for innovation teams. So engineers, yes, they're often they're nearly always there. But also clinicians, yes, more and more so clinicians are there from the start.

[00:05:29] Co-designing with the eventual users as well. But as I mentioned in a different question we also were including occupational therapists in that team, because we see the OTs as this possible bridge with users that maybe for example, engineers might not be able to they, they might not be able to communicate so readily particularly for people that have less experience in this space of innovating products.

[00:06:05] So OTs Can be this communicative bridge between users on the rest of the team, because that's often their job. Their job is to speak on, understand on and have build that holistic understanding of what products, what interventions could be useful for a user. And we found exactly that having that slightly expanded team base meant that we could start to answer questions a little bit better than what we would have done originally.

(Voiceover) What advice would you recommend to early career researchers to create inclusive settings when co-creating or conducting research?

[00:06:42] Yeah, so it's hard thinking of generalised points here to make. I think most important is to go slow and realize that you won't know exactly what problems that will that you'll face as you come into as you come into these environments and set off on these projects that's one thing.

[00:07:07] So and having in your plan this idea that things are not going to go to plan and that you're going to need to probably readdress things as you as you develop what it is you're trying to do having that space to adjust to the different needs as you find them in, during the project time, I think it's really important.

[00:07:30] Otherwise it will just, you'll quickly become - you'll quickly have that sort of feeling of being behind and not being able to really not you already doing it wrong. Whereas if you've planned for those things to go wrong, then they're not things going wrong. They're the learning experience.

[00:07:49] So I think that's the sort of, yeah, a major bit cause I think really the an important point to realise is that the whole point of bringing in diverse perspectives in the co-design process, or in any process really, is that you don't have that perspective, and therefore you don't know what that perspective is going to bring, and you need the space, the planned space, in order to bring in that perspective effectively.

(Voiceover) Can you share any common mistakes that researchers should avoid?

[00:08:20] Yeah, many, yeah, many things come to mind. There's often we must remember that although we, in trying to bring in diverse perspectives in whatever project you're doing, these, the people that you're talking about we might box those people into a single category that's fulfilling a certain stakeholder type.

[00:08:47] But of course, they're not that. Nobody is. Everybody has a range of characteristics, personality, needs, all of these things. And that will be brought to the table. And similarly as before, it's just realising that you won't know what those things are until they arise. And so trying to just be open and just ready for change, I think, is important.

(Voiceover) Is there anything else researchers should be mindful of when working with diverse audiences?

[00:09:20] So with all the best intentions and all the best research on a topic you've got to remember that there's a huge range of very valid opinions that different people have in different contexts.

[00:09:37] And the important thing to realise is they often are all entirely valid, but they can be conflicting with each other. And trying to be ready to handle those conflicting yet valid opinions is hard. But as a facilitator of an environment, I guess maybe one route through is to try to remember that you don't necessarily have to agree or very directly validate a certain opinion in order for to allow it and allow it It's acceptance in a group.

[00:10:14] Because, for example, you might find that other people in that group have a different point of view. Yeah, I think that's one thing that comes through.