

# RCA Podcast: How can scientists and designers collaborate to protect our oceans?

This episode was recorded on 6 January 2025.

00:00:00:09 - 00:00:19:18

Professor Ashley Hall

Can we find a way to make a relationship between election tipping points and people on land? And what would they do? What would they change? You know, what would you change in your behavior? What would change your daily routine? Or how would a government respond differently?

00:00:19:20 - 00:00:45:11

Filipa Carvalho

Hi, everyone. So before we start, they might be good for us to both introduce ourselves. So I'm Dr. Filipa Carvalho. I'm a marine biochemist and a biological oceanographer here at NOC and I'm also marine autonomy and robotics system chief scientist here at NOC. And I'm mostly interested in sort of understanding the role of biology in climate and specifically the role of phytoplankton.

00:00:45:13 - 00:01:15:10

Filipa Carvalho

So the tiny algae and how that contributes to reducing carbon dioxide from the atmosphere. I use all sorts of data from my work, but I use extensively marine autonomy platforms such as underwater gliders, to try to improve our understanding how the ocean physics affect the biogeochemistry, how that then controls the upper ocean biology, and then how that biology helps export carbon to the ocean interior.

00:01:15:12 - 00:01:46:21

Filipa Carvalho

And this is what we call the biological current pump. And today I'm joined by Professor Ashley Hall, who I had the pleasure to share with last summer. Ashley is a professor of design innovation at the Royal College of Art, or the RCA in London. And we're here to sort of discuss how the RCA and NOC have worked collaboratively in the past and in the future to collect data and then help strengthen our understanding of climate tipping points.

00:01:47:00 - 00:01:56:08

Filipa Carvalho

So, welcome Ashley. Can you tell us a little bit, a little bit about yourself in how or what is your role involved in the RCA?

00:01:56:10 - 00:02:28:05

Ashley Hall

Yeah, thank you, Filipa. So as you mentioned, I am Professor of Design Innovation in the School of Design at the Royal College of Art, and I look after postgraduate research in the

design school and I also read and run an MRes in Healthcare Design with Imperial College. And what we're here today to discuss is the work that I lead, which is New Economic Models for the Ocean, and that's a project that is particularly focused around the future of the world's oceans and how we can kind of incorporate design to tackle some of the challenges.

00:02:28:07 - 00:02:47:02

Ashley Hall

So most of the background's primarily around innovation design. So working with technology and design. Lots of work working across different types of communities as well, tackling kind of local and national level challenges through using design, innovation and design research.

00:02:47:04 - 00:03:05:00

Filipa Carvalho

That's really interesting. So many of you, as I probably was a bit before I met Ashley, might be confused as to why the Royal College of Arts is actually taking part in ocean research. So what is an art school actually doing in the middle of the ocean?

00:03:05:02 - 00:03:23:14

Ashley Hall

Yeah. Thanks, Filipa. I think that's a great question to kick off with. And when we talk to people about the work in the oceans that often think that we might be doing a sort of fine art type work, you know, possibly sort of, you know, seascapes or, you know, kind of paintings of ships or kind of coastal areas.

00:03:23:14 - 00:03:55:03

Ashley Hall

But the RCA - about 70% of the the students and the staff are designers, architects and communication designers. So we were set up in 1937 as a government school of industrial design that was all about helping UK industry. So a lot of the work that we do is actually design work as well. So for us, it's kind of very important to think about all the different challenges, you know, facing us in the future, particularly the oceans is one of the most significant ones.

00:03:55:05 - 00:04:19:09

Filipa Carvalho

So I mentioned this before. Ashley and I spent a few weeks at sea together in the Labrador Sea this past summer on board the Royal Research Ship James Cook. And we left from Nuuk in Greenland. And then we go a couple of weeks later in Reykjavik, in Iceland, and this cruise was part of this ReBELS project, which stands for Resolving Biological carbon Export in the Labrador Sea.

00:04:19:11 - 00:04:54:20

Filipa Carvalho

And it's an ARC funded project which aims to set up this really yearlong observatory in the Labrador Sea to try to understand and also quantify the different pathways that carbon can take to reach deeper depths in the ocean interior. So Labrador Sea is a place with high carbon production, but also has what we call this deep winter mixing, which means these

organic carbon particles can still sink like anywhere else in the world, but they can also be pushed down, helping sequester more carbon.

00:04:54:22 - 00:05:32:14

Filipa Carvalho

And given that the Labrador Sea is not really a super pleasant place in the winter, we went out last year in the summer when we actually were, we lucked out and the weather was amazing and we deployed a bunch of instrumentation. So a mooring and two biogeochemical argos and they're actually collecting data for us as we speak. And then in a couple of months we will deploy four more lives to join all these assets and hopefully it will come back next August to do a little bit of a process cruise and then recover all the assets.

00:05:32:16 - 00:05:49:04

Filipa Carvalho

So it was like I said, it was really a pleasure sailing with you and having your perspective. And we had really nice chats while we were on board. What was your impression being at sea on the James Cook? Was it kind of what you expected it to be?

00:05:49:06 - 00:06:10:24

Ashley Hall

I must say one of the things I was most impressed with was the amount of skills that the science team and the whole crew on the ship need to have to get the ship to the location, work with all the technologies and the process, the different weather systems, and also make sure that all the data that you capture is of the highest, highest quality.

00:06:11:01 - 00:06:32:01

Ashley Hall

So I think that was one of the big sort of impressions I took away, plus the amount of effort that it takes to get a ship to sea as well as, there's, you know, several years worth of work, making sure that all the right supplies are there, that my people are there, kind of, you know, visas, passports, flights, connections or hotels, all that different type of stuff is a really enormous piece of piece of work.

00:06:32:01 - 00:06:44:12

Ashley Hall

I think maybe and unless you actually experience that it is quite hard to understand how much effort and time goes into organizing these events. I was you know, I was very, very, very impressed.

00:06:44:14 - 00:06:55:20

Filipa Carvalho

What about the actual experience of being at sea? So the ship life there, you end up helping a little with the science - you had your own science to do. How was that?

00:06:55:22 - 00:07:12:24

Ashley Hall

Yeah, I very much enjoyed it. And I think I guess when you're on board ship, there's definitely a ship's routine. So there's kind of certain time today when you have breakfast, when you have lunch, when you have your meal, and then there's some social time afterwards when you kind of get to meet more people in the ship.

00:07:12:24 - 00:07:35:24

Ashley Hall

And it's I guess it does feel like a very, very self-contained living unit. So everything's there. You know, your whole kind of survival is based on all the things and all the people on that ship working in different, very sophisticated, very skillful combinations as well. And of course, the ship runs 24 hours a day. So it's there all the time.

00:07:36:01 - 00:08:02:13

Ashley Hall

And I guess in my mind, part of the ship looks a bit like a factory. So you've kind of got cranes and you've got some big industrial equipment, and a part of it's a very sophisticated science lab. Another part of it's almost like a hotel. You know, we have very nice cabins and you have, you know, you're looked after amazingly well with the kind of food and all the other human stuff as well.

00:08:02:13 - 00:08:22:07

Ashley Hall

And this, of course, there's a small agenda. And so I think it's a really interesting mix of different types of environments. And you move very quickly through those during the days. So I was I was kind of quite conscious of this sort of very different types of operations happening all within a fairly constrained space.

00:08:22:07 - 00:08:27:03

Ashley Hall

So probably less than 100 meters long. All this stuff is taking place 24 hours a day.

00:08:27:05 - 00:08:46:12

Filipa Carvalho

Yeah, with up to 50 people. So it's fairly confined, but you do get to have a life which is quite nice. So while you were on the ship, you were working on the NEMO project. So can you tell us a little bit more about it?

00:08:46:14 - 00:09:13:05

Ashley Hall

Yeah. So NEMO stands for New Economic Models for the Ocean. It's probably quite unusual to have a design research project with 'economic' in the title. The reason for this is that as a school, as an institution, and as research work, is we took a big step back and looked at what we wanted to do in the future. We realised that, you know, resilience or flexibility to cope around climate change is one of the big needs go into the future.

00:09:13:09 - 00:09:42:17

Ashley Hall

For many, many decades, design has a role to play there because we design products and systems services. We even now design policies with government as well. So design can really influence the way that society addresses or kind of, you know, flexes fall for some of these challenges. And for us, when we looked at Planet Earth, you know, 71% of its oceans, it's a blue planet, you know, So if you go into a spaceship and fly away to have a look back, most of the earth is blue.

00:09:42:18 - 00:10:13:03

Ashley Hall

So, you know, it's something that we often forget when we're on land that the majority of our planet's actually visibly is water. And it has a huge impact on our food supplies. And like kind of whether our wellbeing and even esthetic as well. You know, the beauty of the sea is really important to humans. So, you know, we kind of had a had a had a look at this and we realised that there is a limit to the amount of time, there's a limited amount of design capacity in the world, there's a limited amount of trained designers.

00:10:13:05 - 00:10:35:17

Ashley Hall

We need to build a lot more co-design to tackle some of these problems. And the ocean is extremely important in terms of, you know, all these kind of earth climate systems and yet is also quite distant to a lot of people on land. So for us, one of the big things is, is how we kind of make those tangible connections between life on land and life in ocean.

00:10:35:19 - 00:10:52:13

Ashley Hall

And I think particularly, you know, some of that is around the objects on the surface of the ocean and also how we kind of behave and economics is a really crucial part of that. You know, we need people need money to survive. You know, we need to need exchange. Is there is a behavioral part of that as well.

00:10:52:13 - 00:11:23:04

Ashley Hall

How we behave in terms of the way that we build systems, industries, ways of exchanging information and that knowledge. So our work is very much, you know, around that big, big picture and then focusing a little bit more - we're one of the UNESCO's decade's implementing partners and one of the really important things that UNESCO's highlighted is this kind of gap between the amazing science that's being created and then actually what people do with it in terms of stakeholders or people in the community.

00:11:23:09 - 00:11:52:06

Ashley Hall

How would you act on that? You know, how do you work with these findings and how do you maybe change your behaviors in a way that's more sustainable and better for the future of the ocean? So a lot of our effort and I was thinking about this because kind of co-design work, engaging with coastal communities and also, you know, working with with NOC, which is a fantastic opportunity for us to actually get inside, you know, the real science that takes place on the seas in very hard to reach places.

00:11:52:08 - 00:12:32:07

Filipa Carvalho

Yeah, I thought it was really, really, really interesting how you engaged with the local communities. We had an outreach, our engagement event in Nuuk, and I guess historically we tend to work a bit more with that not we tend to work a lot more with the UK community and we come back to schools and public outreach to kind of communicate our science and get them aware of the ocean and the importance of protecting the oceans and all that - I thought was really interesting how you did interact with, with the the community at Nuuk in how much engagement, what was a 1% of Nuuk's population visited the James Cook that day.

00:12:32:07 - 00:12:54:07

Filipa Carvalho

I was thoroughly impressed. And you kind of made me want to do a bit more, now that we're going to go back, with the local community. So can you talk a little bit more about that, that interaction and the engagement that you do, I guess you've done in the past as well with previous projects and that you did a little bit with NEMO?

00:12:54:09 - 00:13:23:06

Ashley Hall

Yeah, the previous work we did before this voyage is we designed a built in artificial intelligence sensor package. We installed it on a ship in Kangerlussuaq, which is in the kind of middle part of Greenland. And the ship then sailed all the way back through to the UK and we recorded all the objects on the surface of the ocean, literally everything that isn't ocean, even sometimes kind of ocean effects or things that were kind of debatable as to whether they were they were objects and the like, huge hurricanes.

00:13:23:08 - 00:13:44:21

Ashley Hall

And the reason we were doing that is to make this link between things in the ocean and then life on land and communities on land. And so the final part of that voyage, the ship docked in Poole in the UK. So that was 6000 nautical miles. So we ended up capturing 24,000 nautical miles of footage. And we then kind of processed this information.

00:13:44:22 - 00:14:10:03

Ashley Hall

We created data visualisations, and then we worked with communities and ocean professionals in Poole and in Nuuk, in Greenland, to kind of show them the objects and find out people's stories, find out their kind of links to the climate and the ocean. What were their hopes, you know, what were their fears about the future of the ocean? And use this as a way to try and understand what the landscape looks like and also to do a bit of exchange.

00:14:10:03 - 00:14:36:14

Ashley Hall

So to show the people in Nuuk the the kind of feedback from residents in Poole and vice versa. So we can compare these to really different kind of coastal communities. And yet the role - they're both connected through the ocean, they're connected through climate, that

connected through sea creatures. So there's kind of great connections. And also there's really interesting differences in people's relationship to the ocean and how they respond to it.

00:14:36:16 - 00:14:43:18

Filipa Carvalho

Can you elaborate a bit more online? What sort of differences were more striking between the two, the two communities you engaged with?

00:14:43:20 - 00:15:07:08

Ashley Hall

One of the things that we noticed so the way that we worked was we conducted interviews, we did sort of workshops where we print such huge maps. We ask people to draw their kind of fantasy kind of ocean super creature that represented their hopes and their fears about the future of the ocean. So it was visual work as well as, kind of, you know, spoken and then written. Then we analysed it for codes.

00:15:07:08 - 00:15:30:08

Ashley Hall

And then we eventually built up the collections of ideas of emerging through people's conversations. And one of the things that came out quite strongly was around animals. And so in Poole, sea creatures are considered to be very important, but they're quite distant. You know, in the conversation they were kind of over there somewhere. They're out in the sea.

00:15:30:10 - 00:15:55:08

Ashley Hall

They're sort of at arm's length or even further or just certain professions deal with those with those creatures. So, you know, fishermen obviously, since people in conservation and other areas, but in Greenland, animals also came up as an equal or very close to equal percentage of people's focus. But it was animals kind of here embedded around 'we are part of the same ecosystem'.

00:15:55:10 - 00:16:22:20

Ashley Hall

So the distance in how people describe animals was was very, very different. So that was that was interesting. You know, kind of seeing how just a just a one simple part of the ocean can be seen as being very, very different. Then other things we found - pollution was a very high focus area in the UK and Poole, particularly around the cleanliness of the sea in Greenland, that was that was far less of a concern.

00:16:22:20 - 00:16:45:18

Ashley Hall

And actually within one of the workshops we did, we talked to people about about sewage. And it at it had come up in poo in many conversations, but in Inuit people said it just disappears because it vanishes. We don't see again. So, you know, very, very different things, obviously different size population in a different infrastructure, you know. But that was different then.

00:16:45:24 - 00:17:04:18

Ashley Hall

A ghost gear was also something that was very kind of high up the concern levels in Nuuk, whereas in the UK that tends to be less of a conversation. So that was certainly very different, you know, emphasis on how people saw their relationships.

00:17:04:20 - 00:17:29:23

Filipa Carvalho

I guess that's really important knowledge to, to use then when you go back and engage again with the same community too. Can you talk about sort of how you then reshaped the way you engage with them based on this prior knowledge that you got from the previous engagement? Because I guess you want to maximize output in the engagement and the outreach side.

00:17:30:00 - 00:17:54:18

Ashley Hall

Yes, something that's very important to us now, very important to our research principles is that we keep going back and we disseminate the research with the local community and they shape it with us. So our mindset is not that we go in as experts. You know, we go in as facilitators, we go in as people who can, you know, help open conversations, make things tangible, make things visible.

00:17:54:20 - 00:18:18:18

Ashley Hall

But this is very much about giving space for the things that we don't expect to emerge. I think that's really important in research. So, for example, we did his first piece of work on the previous voyage with the St Helena Ship, and then on the James Cook visit, we brought that research back of the findings back, and we disseminated it with people in Nuuk.

00:18:18:18 - 00:18:35:13

Ashley Hall

So explain what we found about that was kind of getting people's feedback again on the results and checking it back and trusting the community that, you know, they also have a kind of saying in those results as well. And then the event that you mentioned on the James Cook, we printed out a huge spill house map.

00:18:35:14 - 00:19:04:15

Ashley Hall

That's a kind of map of the world focusing on the ocean rather than on the land. And we asked people in the note, you know, what to watch, think is your top ocean strength. And then who do you think might have the answers around the world to ocean problems? So that's really interesting because we don't get people looking at home at of the world thinking about which different parts of the coast or the oceans, northern hemisphere, southern hemisphere, different continents who might have knowledge that we could benefit from.

00:19:04:17 - 00:19:18:18

Ashley Hall

And then what knowledge could we offer that other people could take advantage of as well? And that's important because it connects communities, it connects different types of

knowledge as well. And that's really important for that sort of coastal resilience part of the work.

00:19:18:20 - 00:19:28:03

Filipa Carvalho

So what's the future of NEMO? Are you planning another similar type project? Is NEMO getting extended?

00:19:28:05 - 00:19:50:07

Ashley Hall

So we've initially committed to working to the end of the UN Ocean Decade which in 2030. So there's a little bit of time to go yet and at the moment we're talking to various kind of coastal agencies around the world about different pieces of co-design work that can help improve our relationships to the future of the ocean.

00:19:50:07 - 00:20:16:14

Ashley Hall

So that's about working with communities, you know, leveraging people's lived experience and making sure that people have a say. And obviously in terms of creativity that there's, you know, as I mentioned earlier, there aren't enough designers in the world to solve all these problems. And designers just have one point of view, you know? So making sure that you engage communities, you get different points of view, different perspectives, and also understand problems in different ways.

00:20:16:14 - 00:20:25:24

Ashley Hall

People often describe a problem from a different perspective with a different driver. So having that in the conversation I think is really, really helpful.

00:20:26:01 - 00:20:43:02

Filipa Carvalho

Yeah. And I think you say, there's not enough designers, but there are scientists, there's communicators. And so how can we work better together to tackle these big sort of ocean climate issues, such as tipping points?

00:20:43:04 - 00:21:09:04

Ashley Hall

I think one of the most important ways of doing this is what we did on the James Cook is actually being in each other's spaces. And one of the great insights for me was listening to yourself and your colleagues talking about the different ocean models. And different ocean systems. The difference between ocean physics and ocean biology, the different kind of concepts, you know, different technology that you use and how you use it in different ways.

00:21:09:06 - 00:21:41:01

Ashley Hall

So seeing the science taking place, you know, for real in the middle of the ocean makes a really big difference, you know, and sort of, you know, being part of that and seeing it taking place in real time, I think that's that's that's very, very important. I also think that there's lots

of, you know, synergy between all the different disciplines around how we tackle the future of the oceans and linking that kind of social part, the kind of data, the visualisation, you know, the science, the models, the resilience.

00:21:41:04 - 00:21:53:10

Ashley Hall

That's kind of everyone's work. And I think the important thing there is understanding how we think, how we work and where we have those kind of common aims and objectives.

00:21:53:12 - 00:22:18:04

Filipa Carvalho

I guess one of the tricky bits is actually getting something like that funded, right? Because we tend to have these little pockets of money and very dedicated research to answer a big question or small question, and you guys seem to have your own box of money. But having this big funding to tackle these big collaborations, it's a lot harder.

00:22:18:06 - 00:22:22:14

Filipa Carvalho

What sort of pots of money would you go for?

00:22:22:16 - 00:22:44:19

Ashley Hall

Yeah I think it is and I guess one of the challenges we have in the academic world is how funding is project by project most of the time. So we have individual projects and we get funding for those. But you also realise that you need to do bigger things in the background as well that are necessarily always immediately obviously fundable right from the beginning.

00:22:44:21 - 00:23:05:17

Ashley Hall

And of course also one of the other things we know from a design perspective, the way that we work is that a lot of the stuff that we deal with is very gray and fuzzy, you know, so the problem isn't necessarily clear at the beginning. So you have to do something, you know, to understand what the problem starts looking like, not only just for ourselves, but to other groups of people as well.

00:23:05:19 - 00:23:33:15

Ashley Hall

And so that's something that we've done a lot with NEMO. And one of the big insights for me actually was on on the voyage of the James Cook - we've done this this huge effort, you know, designing these these kind of camera systems, testing them, making sure that they worked and store them on to the James Cook and they would, you know, photograph once every 3 seconds in international waters so we could photograph the states to see all the objects there and get that real tangible kind of kind of qualitative data.

00:23:33:17 - 00:23:57:03

Ashley Hall

And then after about a day, I kind of sat back and looked out the window, thought, you know, it's kind of sunny. It's very kind of calm with the seas. Blue sky looks beautiful. In fact, this

could be anywhere on earth. And yet we're sitting on top of a huge climate change tipping point. But you can't see it, you know, and, you know, arguably there's no visual evidence at all.

00:23:57:05 - 00:24:15:15

Ashley Hall

that we're sat on top of a climate change tipping points, whereas if you think about the land, like if there is a polluted lake or a species is in decline or a forest that's suffering, you can often see that there's visual evidence and it's obvious to people on land and you can kind of pretty quickly see what's driving those whereas in the ocean

00:24:15:15 - 00:24:34:19

Ashley Hall

it's really difficult and that these are very distant relationships to things like climate change, tipping points and probably to somebody listen to this. It might sound like, you know, when I talk about climate change, tipping point is like the final scene of a Hollywood movie where we've got this massive vortex. You got thunder and you've got icebergs crashing and you've got freezing cold.

00:24:34:21 - 00:25:00:04

Ashley Hall

That's when you know the clouds do all this kind of crazy stuff. But in actually on the days we were there - and obviously some parts of the Earth does look like that - but on the days we were there it was actually very, very calm. So that's one of the challenges. You know, and with climate change, I think ocean tipping points are some of the most intangible things for people to relate to.

00:25:00:06 - 00:25:19:16

Ashley Hall

So that's one of the reasons why we're really interested in ocean tipping points. You know, can we find a way to make a relationship between ocean tipping points and people on land, and what would they do? What would they change? You know, what would you change in your behavior? What would change your data routine or how would the government respond differently?

00:25:19:18 - 00:25:34:03

Ashley Hall

So I think that if we can make progress there in making tipping points tangible, then I think we could do something really significant. So we can, we can, we can, we can build on that work. And, you know, yeah.

00:25:34:05 - 00:26:00:04

Filipa Carvalho

I guess one of the key things is that the ocean is a buffer, right? It helps keep things kind of steady. And this is the problem with tipping points, right? It's steady until it falls. Yeah. Because of all the feedback loops that are attached to the different tipping points. But I guess we don't have to focus on the ocean to coast interface.

00:26:00:04 - 00:26:27:01

Filipa Carvalho

Then the changes are clearly visible, right? We see a lot of the melting and we saw that in Greenland where Nuuk actually doesn't have a lot of snow. So I guess that coastal environment is probably the key bit to show and to use to then communicate to people on land who might feel a bit detached from the whole tipping point story.

00:26:27:03 - 00:26:28:15

Ashley Hall

Yeah yeah.

00:26:28:17 - 00:26:45:08

Filipa Carvalho

that yeah I mean the coast is part of the ocean but it's one bit that is clearly visibly changing. The climate is changing. I think it's becoming clearer and clearer.

00:26:45:10 - 00:27:11:21

Ashley Hall

Yeah. We did a bit of fieldwork in southern Greenland and we who we went to a town called Narsarsuaq, which is right in south Greenland, and they were walking around the settlements, you know, tourism, walking, research, bumpkins, people having a chat as a very early piece of fieldwork. And we met one resident who told us that in the spring, the icebergs carved very heavily in and more heavily than they normally did.

00:27:11:23 - 00:27:35:00

Ashley Hall

And the wind changed directions or the icebergs blew in and blocked the whole port of the town for months on end and so that meant that people couldn't leave, which meant that they couldn't go fishing, couldn't go hunting, couldn't go see relatives, schooling, healthcare, all those things get really challenged. And so it got to a point where people's food supply started to run low.

00:27:35:00 - 00:27:55:16

Ashley Hall

And so they started thinking about how can we actually do more locally? And of course the weather now is a bit warmer. So in southern Greenland there's now polytunnel kind of farming of vegetables and some fruit as well. So climate change is actually conversely bringing some benefits. You've got melting glaciers, you've got rising sea levels.

00:27:55:16 - 00:28:20:07

Ashley Hall

So in some parts of Greenland, the land's rising faster than even the ocean. So, you know, some of the places where people tie their boat separately higher above water now than they were before. So there's this quite interesting sort of thing. The differences that this person took, which insults people say, well, you know, what would you what would you want in if we if we did a co-design project with you, what would you what would you would you like to have?

00:28:20:07 - 00:28:44:17

Ashley Hall

And they said, wait, we'd like a biochar reactor. And we have. So it's not something that we would have expected to have heard, you know, why would you want to biochar reactor? And they said, well, if we have a biochar reactor, that gives us a way of holding nutrients in the ground and that means we can actually grow more vegetables during the year so the town can become more resilient, can be more - we can also grow these things locally

00:28:44:17 - 00:29:11:08

Ashley Hall

so they're not shipped in from Denmark, which is the case at the moment, most of the fruit and vegetables are shipped in, so the quality isn't so great. So that was interesting, you know, and that's an immediate sort of coastal challenge which provokes a great piece of resilient thinking. So that's one of the reasons for us why it is so important to engage with communities and why it's important to ask different, different questions, to find out how people are planning on tackling some of these challenges.

00:29:11:10 - 00:30:06:03

Filipa Carvalho

I guess then another important bit is to communicate this to the local reactions to the other land population that doesn't experience these issues because they don't live on a town that icebergs can blow in and prevent all sorts of communication with the outside world. So are there plans to kind of do a mix and match of experiences to to sort of broaden the, I guess, the way people feel directly on their skin the effects of these of climate change in certain locations to feed that back to other communities that may experience a different look like you had with with Poole versus Nuuk, but do you do some exchange

00:30:06:03 - 00:30:11:14

Filipa Carvalho

as well as the feelings and the knowledge shared by the communities?

00:30:11:16 - 00:30:29:19

Ashley Hall

Yeah, we do. We did a little piece of work in the Ocean Decade conference in Barcelona and that was obviously with, you know, people who were very heavily engaged in the future of the oceans. But there we covered, you know, several dozen different countries again where they were the spill house map and that was about how you connect different types of knowledge.

00:30:29:19 - 00:30:51:04

Ashley Hall

And for us, the first piece of work was Poole and Nuuk. And then going forward and looking at climate change tipping points and figure out a way of trying to make those tangible and then once that's done, we can expand that into future areas, obviously work with collaborators, work with other agencies, and then see how we can we can bring that work to a wider group of people.

00:30:51:06 - 00:31:15:09

Ashley Hall

But I think at the same time, you know, a lot of the world's population is moving towards the coasts. So as a species, humans are increasingly coastal. As the climate warms up, the centers of the continents will become increasingly hotter. So that will force more and more people towards the coasts. So I think, you know, there's also a kind of population drive as well.

00:31:15:09 - 00:31:30:22

Ashley Hall

Climate change will push people towards the coasts. So increasingly that space will become more and more kind of contested, you know, for changes, volumes of people...So it's essentially a set of challenges going forwards.

00:31:30:24 - 00:31:41:23

Filipa Carvalho

So are there any skills or insights that we can bring from other design areas into working with oceans and coasts? You can sort of think of?

00:31:42:00 - 00:32:08:24

Ashley Hall

Yeah, I think one of the one of the I guess one of our useful skills as designers is that kind of listening, facilitating, you know, drawing out stories, making things tangible, making things physical, visualising particularly now I think visualising can make a big difference. And the next stage is designing, building, prototyping, testing, you know, and so how to scale a particular type of solution so it can be used by a larger number of people.

00:32:09:01 - 00:32:31:05

Ashley Hall

Also with colleagues working on projects linking to citizen science. So that's how we can engage citizens in gathering some of the data as well. So that also changed people's behavior patterns and changes how people live. And I think also for us as designers is moving into that space where we kind of help bridge that gap between the top down and bottom up.

00:32:31:05 - 00:32:58:05

Ashley Hall

So from designing policies both to work with local communities as well, I think in a really stepping back from all of this, we've we've got 8 billion people on the face of the planet and we've got, well, maybe 100 years when we need to persuade this 8 billion people that that's a that's a different version of better. And I think a lot of us, you know, have sort of certain goals in our lives to the size of the house in a bigger SUV.

00:32:58:07 - 00:33:28:06

Ashley Hall

You know, an even then even more impressive smartphone... It's not necessarily making us happier as a group of people. And I think in the past, there were other ways of living and thinking and there will be in the future as well. So I think that the kind of positive path for me of climate change resilience and and how we deal with it as a society is that we can move

towards a better place and we can have a different idea of what better is - a more sustainable - but also better for us as well.

00:33:28:08 - 00:33:48:07

Ashley Hall

So I think our value systems will have to change and a part of that, that's behavior change. Some of that can be designed in partnership with, you know, scientists, designers, engineers, politicians, technologists working together. So I think there's a great opportunity to do something on an even bigger scale actually.

00:33:48:09 - 00:34:20:23

Filipa Carvalho

I think that's definitely the key take home is that we definitely need to work together because it's just such a big effort for just a single area of research that you need multiple players doing their thing..but it's going to be a slow process. But I think there is change already. So, I'm going to - I want to think positively about the human race and maybe end this podcast on a positive note.

00:34:21:00 - 00:34:36:19

Filipa Carvalho

I think we can talk forever. It was such a pleasure having you on board and we had such nice chats over in the Labrador Sea. Is there anything else you wanted to just mention before we wrap up?

00:34:36:21 - 00:35:03:24

Ashley Hall

I think I'm, I think I'm done actually. I did want to ask you what your impression was, you know, in the Labrador Sea or do you think about, you know, well, I'm on a ship, I'm sitting on top of the climate change tipping point. What does that mean? What's your to do to kind of think about those kinds of things as a scientist? Do you think about the kind of physical impression of those places and spaces?

00:35:04:01 - 00:35:32:10

Filipa Carvalho

Yeah, I do, obviously. I mean, we set up the project with the tipping points in mind going to the Labrador Sea in particular was was, was not by chance. It was on purpose, obviously. So yes, the short answer is we do have that in mind. The one thing that I didn't have in mind as well in that we're able to do through you, was that engagement with getting that perspective from the local communities.

00:35:32:10 - 00:36:13:16

Filipa Carvalho

I thought that was, you know, maybe I'm just pushing it on the same note. But it was really interesting because I guess from my previous background, I've always just done outreach on the national level. And so it was really, really interesting to get that perspective from the local communities. And it sort of highlights what now the research community or the scientific community is, is pushing more and more for using the local knowledge, the indigenous knowledge, because they do have something to say, they have the experience, the they

might not have the scientific knowledge, but they do have knowledge and how to leverage that, I think is is a key topic that the scientists will

00:36:13:16 - 00:36:37:24

Filipa Carvalho

need to balance into their own research as well. Yeah, but it was really nice. It was - we picked August and we waited for the cruise to be in August to maximize the weather window because we wanted to deploy to be successful deploying the assets for the yearlong experiment. But when you look at the statistics of the Labrador Sea, we were an outlier.

00:36:38:01 - 00:37:10:01

Filipa Carvalho

It's usually really, really rough, but we lucked out. We always had a storm behind and ahead of us about a day. And so as we were following the weather maps, but we definitely lucked out and luck is part of it! But we did learn a little bit, but I, I really like the cruise. I'm hoping you come back and join us next year as well and build on the collaboration and the engagement side of things.

00:37:10:06 - 00:37:29:08

Filipa Carvalho

It was really, really interesting and very happy to have the follow up on the. So I'm going to finish by. Thank you so much for taking the time. And like I said, I'm really looking forward to exploring more ways and how we can collaborate faster.

00:37:29:10 - 00:37:48:14

Outro

This podcast is from the Royal College of Arts. Home to the next generation of artists, innovators and entrepreneurs and the world's number one art and design university. You can learn more about our programmes at [RCA.ac.uk](https://www.rca.ac.uk), as well as finding news and events relating to the college and our application portal. If you're interested in studying at the RCA.