

AG2PI Workshop

February 24th, 2022

Rachael: Welcome. Well, I think we'll hand over to Shawn to get us started here and and say hi to everybody. Its all you Shawn!

Shawn: Well, welcome. You know for those just joining us, you haven't missed much except some awesome chat about the Olympics and flexing, from all of our awesome institutions of affiliation. So welcome. We're at the Public Science Collaborative. We're a public-facing research shop that works with various groups, like plant geneticist and [inaudible] and works on big and little problems. And we work with teams to help you better team science, and to think creatively our work impacts the world and people upstream and downstream of our particular specialty areas. We're at Iowa state in the United States. And we're happy to be talking to folks all over the world doing awesome work. Okay.

So here's an agenda for today. We just passed the one of our five Stepping Stones, we introduced ourselves. So we last, some of those that were with us at our last workshop in November, we worked on developing these personas thinking about who's impacted by the work that we do. We get in kind of our lanes and we have our niche areas, a scientist in the very specialized area in which we work day in and day out. And for a moment here in our last workshop, we thought about kind of expansively about who are our key users, recipients of our work, who is directly or indirectly impacted. And from that we developed these four kinds of ideal type people, we call them personas, but they represent groups of people that are impacted by our work or the outcome of our work. We're going to leverage those again today. Bring those back, but we're going to move those forward think hard about, each of us, one of those four personas.

We're going to do that with some empathy maps to think about what these folks think and feel, what they say and do and then we're going to move on through a process of Journey mapping. And we're gonna kind of track how they interact with our research, how they may be touched directly or indirectly to think about these new opportunities to engage, to improve our work, to make sure work is sensitive to that especially the downstream impacts of what we do. And then we'll come together at the end and kinda wrap up together, but we have a couple breakouts of engagement and small groups to do a little stuff together.

So this, this two-part workshop series that you're participating in here as a first or second go-round. It's around this idea of diversity, equity, and inclusion, thinking a little bit more expansively these days about the work we do to than maybe was done in the past. And some prompts your for, to think about the ethical implications of our individual work, the work in our labs, what we publish, the data we collect and analyze. We're going to think about the ethical implications or the legal implications. And perhaps most importantly, and one of the hardest ones for us to think about a scientist sometimes, what are the social implications? Who's going to be affected by the work we do? How,

how will it affect communities, and individuals and groups, whether that's mainline majority groups or marginalized historically, marginalized in the groups in our, in our countries, in our communities and in our research communities. And then finally thinking about what are the ecological and economic impacts?

In the US this phrase as we call it ELSEE, the E-L-S-E-E for Ethical, Legal, Social, Economic, and Ecological impacts. And broadly, this gets us thinking a little bit more expansively about a work and especially that the people that are impacted by our work. So, this paradigm is ELSEE paradigm is a really useful one and it helps us to do better science and to do it in more ethical and socially responsible ways. That is, more sensitive to the environmental impacts and the economic impacts to various group. Be it a great new technology, that might displace some folks in the work they're doing. And we just kind of want to be sensitive to that and be thoughtful about how that is done, how we do that.

So, big picture question one is "Why this Workshop?" The goal here is is is to kind of intentionally incorporate diverse ideas and perspectives and and backgrounds from the beginning of our projects. And if we do that we get better outcomes. In doing this, we get a more inclusive and diverse approach and it gets us thinking and and and much more aware of underrepresented stakeholders. It can bring them into the equation and help, they can help shape and determine the approach we use, the questions we ask. A lot of times we have, the scientist, we have our own unique questions. This is a chance to get some new ideas for people who are impacted by our work. So broadly, you know, I want try and encourage all of us for the next little bit of time together is to be thinking upstream and downstream with what happens in our labs and in our research shops, in our departments, and our institutes. And lets think upstream about who's impacted, downstream who's impacted, and be sensitive.

Cass: Thanks Shawn. So one of the things as we're going to talk about this, we said that we'd first tell you about the personas that you helped create. And I want to set the stage for this. We did an exercise where we said who are all the stakeholders that we might be engaging with through your affiliation in AG2PI? And we really got stuck. I mean, we we really focused in on one stakeholder which is the first one you're going to see here, which is Scientist Susan. But over time we actually developed several and we could even have more. And Scientist Susan is really interested in feeding the world. I mean, her job, she has a noble purpose, and she's part of this task and wants to do this. And we had Industry Ian, we had Farmer Fred, Government Gloria.

No, I want to pause we're going to dive in deep to each of these but I want to step back and give like a 30,000 ft picture here. Shawn mentioned why do we use personas, but I want to hit on this again. If you came a little bit early to the session. You heard us talking about user experience research and how it's taking over industry of business. It's super huge in tech, and these are cross disciplinary teams of folks who were really interested in the user experience and it kind of guides their whole internal research process. We take a similar approach. We use human centered design for our research at the Public Science Collaborative we often coordinate with local, state, and federal

governments in thinking through their issues from a human centered perspective. And so one of the things we want to talk to you about, is how you can incorporate ELSEE by taking a human centered perspective in your whole research agenda, not just in a research project. A lot of people are familiar with doing this.

If you're trying to bring a particular technology to market, but you can do this with your whole research design as well and you can see even with starting with these four different personas that we came up with together, collaboratively in our last workshop, we really diversify the perspectives and the ideas that might push our research forward, which is really sorta the point today.

So we're going to focus in on these four personas and throughout the course of the next hour, hour-and-a-half, we're going to do two breakout sessions we we're going to ask you to empathize with them. And then understand their journey as they intersect with your research. What does that mean for your research and how can that inform your broader impacts?

So, our four people; Scientist Susan, Farmer Fred, Industry Ian, and Government Gloria. As we go through today, Scientist Susan is going to be our example that we use over and over because that was someone that everyone felt really comfortable with. And so we've kind of prepped materials around Scientist Susan to show you what we mean as we go through each step. Industry Ian's breakout room is going to be led by Rachael. So wave Rachael! Rachael has a lot of experience with industry and is going to be helping us see things from their perspective. We're lucky today to have Shawn leading us with Farmer Fred. Hey Shawn! Farmer Fred, there's a lot of meat on these bones because Sean has been doing some research where he's getting farmer opinions about adoption of technology. And so Shawn really has some really good insights about what farmers are saying when they're intersecting with the research here. And then I work a lot with government, so I'm going to help represent Government Gloria and what are the thoughts of those government leaders and what they're trying to get done?

So lets dive in deep for these four. So the first is Scientist Susan, she has a PhD from a research university and works at a research university, with a strong agriculture focus. And you can see on the left side panel, we talk about things like education, industry, age, organization size, and preferred methods of communication. This is how you can do outreach to this person. This is one of your stakeholders, how are you going to do outreach to the scientists? And who influences them?

So, Susan gains information by reviewing scientific journals. She attends conferences, workshops like this, she collects data, she analyzes data, she works uses data, she works with her collaborators, and she is strongly influenced by leading researchers in her field. As a research faculty member, you know, she she measures her success by her publications, her patents, her discoveries. She reports to all sorts of university administrators. And she has these goals to make plants and animals more resilient, to provide ethical outcomes in investigations, to improve breeds for future farming, to develop innovations that lead to profitable patents. you know. Now that's a lot for one

scientist. This is an ideal type and this reflects some of the many answers that y'all gave us back in November as we were thinking about what is it that Susan does.

And her passion point, the thing that gets her up in the morning is she wants to do good science, and she's interested in the latest breakthroughs. She is well compensated, she wants a lot of respect, and she loves to solve complex problems, but her pain points as we think about interacting with her and getting her to join and take on our research, the things we have to keep in mind as she is crunched for time. She needs funding to do her work and she has difficulty recruiting and finding high-quality students sometimes, navigating the relationships, project management, we've all been there, you know that's a lot of work, and juggling the diverse tasks of being a scientist.

Industry Ian, he has a master's degree in a STEM field and works in a commodities area. He likes to phone and text and his influencers are proprietary business reports, publicly released data from the government, competitor firms, Wall Street Journal. Kind of his phrase that sets him apart is he says Washington folks need people like me to connect them to real agriculture interest for future forward and profitable policy making. So if you had to sum up Ian, it would be in that kind of little blurb at the beginning. But he really wants to represent commodities and farmer interest in Washington and provide funds for projects. And he has to think a lot about immigration and labor issues. And his job is measured by increasing employers influence on policy and the profitability of the sector. And he really wants to partner with people like you because he wants to capture some of the profits that are flowing from the innovation that are developed here.

The passion points, the things that get in excited about working together with this group and also just gets him going in the morning is keeping costs low, increasing profits, increasing public support. You need trust if you want technology adoption. Increasing the general public's understanding of GMO production and influence policy. That is what keeps Ian going.

Now the pain points, the things that might hold him back from really being a great partner with us. Is he has difficulty navigating client relationships and communications, not enough resources to advance his goals, always worried about how to keep costs down. He wants to look good, get things to the market faster, sell more make more money. Public support and the gap between the industry concerns, the public concerns. This is something...this is something that we really want to do.

Okay, Farmer Fred. So, Farmer Fred says, so I know farming. What I want to know is how you plan to help me keep farming in the future. And what Farmer Fred cares about is profitability and really maintaining the way of life. So Farmer Fred has some, may have some college, may not have a degree, gains information for family members, other farmers, reads agribusiness reports and trade magazines, works with extension officers and agriculture sales reps. And the Farmer is really committed to, to focusing his energy, his effort, his time on the farm and wants to work at the AG2PI to maintain his position, to be an early adopter of these emerging technologies. That again that efficiency and profitability of the farm is the most important thing to Farmer Fred. To

know more about how advanced technology can improve his operations, but worries about rising costs, you know. We see that he's aging, he may not want to take on new technologies. And his job is measured by acres tilled, crops harvested, and his legacy.

The thing that keeps Farmer Fred going is he is passionate about his farming, about the future of farming, and about the history that got him here. So past ancestors, long term residents, friends and family, townspeople. As Shawn's been reading these interviews, these are the things that have been coming up. Its history that really matters and its this forward-thinking balance here. Highly knowledgeable about local weather and weather patterns and really wants to train the next generation to take over.

The pain points that make Farmer Fred, um, some of the obstacles in the way of getting Farmer Fred to work more closely are the rising costs of technology, scarcity of labor, adaptation to changing climate and water scarcity, environmental harms, increasing technological requirements, and the big pressing question who is going to take over the farm when he retires. So Farmer Fred is one of our key people here.

And now our last one, now I do want to just pause for a moment and say, for those of you who were with us in our Workshop. You're going to say, oh my gosh, we brainstormed all this. And it's the first time you're seeing it all together. So we will give you a chance to say, you got it 90% there or 30%, or whatever and give your feedback. So love to hear from you.

Now Government Gloria says I do not have time to do this research for myself, so you show me clearly what you can do with these funds, what you'll achieve, why you need them. So government, Gloria is very straightforward, needs to solve problems, usually has about a master's degree, could be higher. Gains information by reading reports, institutional knowledge, other directors, professional conferences, and reports a lot to both the state and federal government administrative arms, focuses on the distribution of funds, policy development.

And really, you know, one of the things about our government partners is they have a very bureaucratic list of things that they must achieve with all their programs in with all of their funds. And so really making sure that they're achieving all those objectives while still keeping a bit of forward-thinking momentum to keep being cutting-edge is something really important. So their job is measured by the appropriations and probability, return-on-investment, also that positive PR when they end up in the Des Moines Register, is it for something good or something bad, which is our local paper here.

So they're passionate about how they can shape policies and change the future and help people. Uh, they want the US to be a cutting-edge research and program place and they're passionate about using science to achieve these goals. There's a lot of support for science throughout the government, but there isn't a lot of time or capacity within the government to do it. So, they need to work with researchers. Their pain points are that sometimes they have a limited scientific background or they don't have time to

get to, really dig in, resource allocation, changing management, keeping morale high, especially in times of rapid change of executive leadership, turnover, and that project management, and disorganization that occur.

So these are some that Government Gloria is really thinking about, so when we go to Government Gloria and we say we want to work with you, we need to be really cognizant of, are we adding to these pain points or we helping to reduce those in some way and bring them to increase the opportunity to work together?

Okay, so that looks like a lot. We're going to slow down now and have a chance to talk about it. But we had these four perspectives. I'm going to go backwards to these four and just ask you. What did what did we miss? What do you think? This is a chance, you can put this in chat., you can open your camera and your mic and just talk with for a minute and say what feedback do you have? We co-constructed these together, did we nail what your top four were, who we're missing?

Cass: Great, Rachael put a question in chat and feel free to just answer in chat as well. So this is, what did you think about the personas? And is there anything you'd like to add?

Cass: So as we're thinking, as we're waiting for the questions to come up and chat, I'm just going to mention, you know, kind of how this ties back in again to our work is that as we think about the diversity of stakeholders that are going to engage with our products and with our research, and we think about what their needs and wants are, we can really have their interest inform, the research design that we carry forward. And as we get these diverse opinions and perspectives, we're able to develop a more well-rounded research product that really meets our user needs.

The one thing that didn't come up that I would like to point out, is we heard numerous times from the people that we've spoken with as part of this group that they're here to feed the world and they're here to improve vaccines, they're here to do really noble things with their job. But one of the users that didn't show up was the person with the plate in front of them or the person who's going to get the injection, you know. So, so as this human centered design happens, we can also iterate on it and keep adding users that we think we really need to take into account and this can drive those broader impacts in our field.

Cass: Great! So we have some comments. Nicole says she likes how we use the same categories in each field, good. It does make it easy to see similarity and differences and we really love the design thinking approach here to help us think about how can we engage with each person and be really respectful of their unique differences. Megan says Data Daria. Yes. That's a great one. That would be an excellent to add. Carmella, they're probably a lot of people are in between these four.

Yep, and they often slip through the cracks, wonderful. That is exactly right. I think we could have dozens of these but really thinking about who these are. Data-based Denise, I love these. Yeah

Shawn: Good

Cass: Yeah, good. So these are the sort of ones that we might even add to, to put them in our notes that will go back to all of you to think about who else we might add in the future.

Shawn: If along the way, even in your breakouts, you think of another major stakeholder, a kind of a persona or group out there that we missed, just throw it in there because we love to kind of build out a few additional personas to kind of guide the work of the teams here.

Okay. So first activity today is this empathy mapping. I'm hoping a few you have played with this, but assuming nobody has heard of this before. Empathy mapping is a cool visualization tool that lets us, well as it says, empathize with someone who's different from us. And let's a step out of our scientist shoes and jump into the shoes of somebody else and see and hear and think and feel the world from their perspective. It is a very powerful method to expand the, the thinking of our work to get us into new ways of approaching a problem to think about things, again from a different perspective. And at least it lets us think about our problem set from the perspective of someone who maybe doesn't regularly enter into our research uh streams and thinking.

So the basic structure of an empty map is just like you see here in the middle, is a face. That's a Persona. Each of us is going to have one of those personas in mind. We're going to be thinking about the Farmer, the Scientist, the Industry specialist, the Government specialist. Industrial specialist the government specialist and we're going to be talking as a small group. What do they see what they say and do and what they hear? That requires us to not just put ourselves in their shoes and put them in a context, to put them out in the farm, to put them in front of government, you know industry lobbyists, to put it in front of federal funding agencies as we get pitch projects.

And then we need to think about the pain and the gain dimensions of each of those, we've made this a little easy, we've filled in in pain and gain. But the core idea here is just let's jump into the shoes of one of these three user groups and think from their perspective for just a little bit.

Shawn: So let's go forward with one together for just a minute. And this is, this is what our end goal is. Our homework assignment here in the breakout is to get a 6 or a 3 by 3 or a 3 by 2 I should say. A 6 cell table filled in and we got the think and feel in the top left, the see in the top-right, got hear, stay and do. So this is, you know, Cass mentioned we would have these all filled out for one of the personas and that's our Scientist.

And how does, how does she feel? What does she think and feel? Susan, she feels like she needs to prove herself all the time. And as each of you know, that's exhausting physically, mentally and never, never a moment's rest. Um, definitely she loves it when someone's confronts her with a viewpoint she hasn't considered, an intellectual challenge. She likes the logic problem to be solved. She often though feels invisible when some colleagues somehow seem to dominate a conversation without noticing her efforts.

Feels like she's flying when she makes discovery that moves the flow of the field forward. And she's motivated by success and also by failure, that she's got that natural experimental thinking, she's really motivated by the wins and the losses. What does she see? Well, she doesn't see a lot of people who look like her in the meetings and she notices, she's different than many in her group. She also notices that when grad students meet faculty, they often hesitate to contribute to meetings. So she's often aware that there are some people on the team that are on the margins. She sees connections in the in the work, in the data that many people miss, she's able to make these really cool breakthrough.

So these are the kinds of thing Scientist Susan sees. The kinds of things she hears, well she listens to her subordinates, the people that work in her lab. She hears them saying she's the best boss ever, best boss of all time. We've all been there, right?

[laughter]

Shawn: But sometimes she hears colleagues to checking with males at the table before including her. Something. She's sensitive and mindful to and affects her work. She hears people assume she can't follow in English because it's not her native language. And then they tend to talk over her and ignore her. And that's a really frustrating experience for her. About for saying and doing, she reaches out to colleagues to congratulate them on their achievements.

She's always attending every conference, expand her networks to maintain the front end of the latest breakthroughs in research. She agrees to co-author with new scientists to mentor them and she really works hard to be inclusive in her viewpoints because she shares a unique perspective and she sensitive to that. And then we got pain and gain. Those factors that really motivate her to push forward or keep her on the sidelines. She's you know maintaining funding, paying time, recruitment of quality staff is important. Navigating stakeholder relations, another pain point, but she's good at her job in terms of gains. She's you know, compensation motivates her, respect from her colleagues motivates her, the possibility to make a big breakthrough, really motivating for her.

So that's what we're going to fill out together here. Now how do we do that? Okay, you got a link here and that if you want and Kels if you'll drop that in the chat as well. So if you will just pop into a browser, click on this link or click on it in the chat. This will get

you to our first breakout room.

Cass: Awesome. So as you click on this, you'll be going into our breakout rooms and Kelsey will place us in there. We'll get a warning when we're, this is going to be a relatively short breakout, we just want to start empathizing with these personas before we do our next step. So, just jump on in and when you get the option, there it is, please go into your break out. Thanks, everybody!

Kelsey: For those of you still here, did you get the prompt to join the breakout rooms? All right, it should be a box that comes up on your screen and you'll click join breakout room.

Kelsey: There you go. Let me know if you can't find it.

[Breakout Room Session 1]

Kelsey: Ope, I think you're on mute Cass.

Cass: Yeah, I was just saying hi everybody. As Rachael's getting ready to take over. Hello everyone, welcome back! How did the conversations go? Did people get in the heads of their personas?

Rachael: Ours rocked, I'll just tell you that right off the bat. That was awesome! We had some good insight and some experience to build from as well. My internet is falling out. So if I disappear Call, I'll be handing off to you. Keep on getting a notice here that it's stopping.

So but not to worry, we will dive right in now to our next section. And we've done the empathy map and we're going to move into doing our next activity, which is Journey Mapping and I'm going to tell you all about that.

Journey Mapping, like when you think of any map, you start in one spot and then you end up in a new destination and that's what we're going to do today. And it's a design thinking concept. It's one of the simplest yet most powerful tools that we have in design thinking. It captures stakeholders journey's, literally, as they experience them, so we pay particular attention to the emotional highs and lows as we touch through their journey. And so, how do we do that?

This is how we do that. Those of you who are with us in the last workshop, you'll see that some of these points we already touched on in our last workshop and that was really awesome. But don't worry if you weren't here for that because Cass did a fabulous job of going through the personas which were the output of that session so you will be all caught up. So here you see, what do we do?

We set out targets having ideas of what our destination is is always vital. You don't just jump in the car and say we're going to end up somewhere. You jump in the car and go somewhere. The knowing where you're going is the first step.

And then the second part is that creating personas, which we went through today. And you can see, those are nice strong, real people like their fake people. But they start to feel real to us especially as we've gone through today and identified more of their motivations, their pain points, and how they feel as they go through their day.

The next part is the getting our teeth in, is figuring out that Journey experience and for that I want you to be concentrating specifically on what's the actual experience as they connect to you and to AG2PI. How do they feel when interacting with you? Every time you have a touchpoint with someone, that's a key opportunity to connect and have a positive outcome. You want to maximize those touchpoints. As we go through, and we're going to see some of our really great responses and some of our like, oh this is the concern. We call those Moments of Truth.

And Moment of Truth is where we, we are building trust and we start to understand where our stakeholders are coming from and we attempt meet them where they are. And then the last point here is to just revise this. This is our one window time now. And as we make connections, and as we build in the future, we'll visit again to kind of keep moving forward, but it's a journey, right? So we're always moving forward. When we're thinking about our stake, our personas today our specific stakeholders.

We have three really key reasons for doing this journey map. The first is that we get to visualize something outside of ourselves. What is it that they're they're going through on this journey. And we do that so that we can build this understanding. So we can understand the problems. We can figure out solutions. And then strategize, that last point, that's your how did, how can we increase the positive touchpoints?

How can we fix something that everyone is getting a bottleneck in or getting stuck on? So that is, really are are vital part. And then, what do you do with a Journey Map once its made? Once you found that x marks the spot on the treasure map, what do you do? And that's where you have these opportunities where we can really focus our strategic actions.

So, are you getting excited? We talked about a journey map now we're going to work on a journey map. So as we did in the earlier piece, we're going to work through something, somebody that everyone is familiar with on the call. Our Scientist Susan, and this is an example of what you're going to see in our next activity.

So you have these touchpoint prompts and then we're going to actually fill this in together and for, for Scientist Susan, we went ahead and we've filled it in. Lots of great ideas. Lots of touch points. It may be small on your screen, but that's because, you know, you start getting those juices flowing, and you think about everything and that's okay. Once again, we're just, as we're thinking and feeling this in together today. It's not

just the steps that someone takes when they're interacting with AG2PI, it's how they feel while they're doing those steps.

And really what we're going to do here is we're going to take all of this great information that you're going to fill in. And we're going to leverage that, what are the really great positive insights that we can leverage, we can celebrate with the team. That is highlighted here in yellow, are some some great items that just sort of pop out. Where our Scientists Susan is feeling empowered and feeling connected and is feeling like there's people out there that think like me and want to do, think that what I do is important. These connections there are key.

And then of course, it also gives us the opportunity to reflect on some of the points with more friction. And so I've highlighted some of those too, where maybe you're getting a lot of great emails, but you're getting 400 emails a day. How can we focus our subject lines to jump out and be like, I want to I want to concentrate on AG2PI here. So that is the process that we're going to go through.

We're going to get that blank and we're going to fill it in with our personas. So we're putting on those persona hats again and so back we're going to go into breakout rooms. And for those who have closed out their breakout room. There is here, is the link again. Kels if you'll drop that into chat, that's awesome. And we will see you on the other side of a 30 minute, 25 to 30 minute break at room now, where we're going to get really stuck in on the journey.

Kelsey: All right, so you should have another box that came up or the breakout rooms. They should bring you to the same rooms that you were assigned in earlier. If you don't see that box, you can give me a shout out or type it in chat here.

[Breakout Room Session 2]

Shawn: You're on mute Cass.

Cass: Hi everybody. I forget that you automatically get put on mute, like no, no I'm not on mute, that doesn't happen. It's definitely what happened. Okay. Well, I don't know how the other teams did but our team rocked it and we filled in every cell. So super happy. Thank you so much for your ideas on Government Gloria. I could hear out of the side of my ear some interesting conversations happening in one of the other groups.

Super excited, any feedback we want to start with, cause then we're going to get discussing and everybody gets to jump in and give feedback about the process. A lot of tears, I'm so sorry Farmer Fred group. You know, it is what it is. The research process can be difficult. [laughs] All right. I'm going to share my screen because we have some questions for you as we think about you know, where we've been today.

So what we really wanted to do is walk through, we, we started with these persona developments in our last workshop. And the reason we're doing it for the reason that

you know, we were originally engaged in this effort is because as we try to bring in new perspectives and new ideas and new partners and new stakeholders, our diversity quotient increases. We suddenly start seeing things from different perspectives because people have different backgrounds, different experiences, different trainings, different needs and it starts to push and pull our research in new ways. And as we improve our inclusivity of these diverse ideas and perspectives, it can really broaden and strengthen our research.

And so and one of the things, they're one of the reasons behind it, one of the ethics behind it is that equity. So the DEI I know diversity, equity, and inclusion and that equity piece is what bringing stakeholders to the table. That really should have a chance to engage with us and engage in the research process because the work we do is so valuable and important to them. But, sometimes we don't bring them into the process early enough or we don't listen enough to their ideas.

And so that's why we did this touchpoint analysis about lets just brainstorm together how are ways that we can actually try to engage even more bringing more of these diverse ideas. Really promote. ELSEE in our research upstream and downstream, as Shawn said. So here are some of the questions that I just want us to think about and you can answer one or none, but I'm going to open this to the group. You've all been talking a lot. Here's your chance to talk a little bit more. What insights did you gain? Did you gain any new insights about the people who use their research? Did you learn anything new?

Speaker 3: Poor Farmer Fred was hung out to dry.

[laughter]

Cass: What do you mean by that?

Speaker 3: He didn't have, he had a lot of ways to interact but only in the ways being prescribed by the researchers and the program and didn't have any more. There was no way for him to provide more personal feedback that would like change affect research. No direct way to contact folks.

Shawn: Yeah, that was a challenge for us is to find those certainly to find direct linkages between the AG2PI network and its research effort. And any given farmer anywhere in the world, that, it was a struggle to find a direct connection even need the one-step indirects was a challenge So certainly, that would be one possibility for the AG2PI is more direct engagement, outreach to an engagement with Farmer Fred's all around the world, hear their voices, get their feedback, what they're seeing on the field, get sensors on their fields and get communication with them, and tests is just a huge opportunity to move the endeavor forward and improve conditions for the farmers in the field with that connection.

Cass: Great Insight. Thank you very much. Did we learn anything from Ian? I'll pick on the Ian group. Industry Ian. Were there opportunities and touch points for collaboration that were helpful or unexpected?

Rachael: I think we had two of our, three of our four people who had to sign off right at the end of our, our session, but Nicole was in there. I can put Nicole on the spot and say would you think Nicole would you get from Industry Ian?

Speaker 4: Thanks, Rachael. [laughter] I mean, honestly, my biggest insight is just how hard it is to get into inside the, the head of someone that you've never walked a mile in their shoes. So like honest, I've always been an Academia. I've been on the research side of things, I grew up on a farm, I can get inside Farmer Fred's head, but Industry Ian was a pretty big leap for me. I feel like we did a good job filling out our boxes.

Rachael: Nice, nice

Cass: That's great. That's a huge learning to be like, it's hard, right. Because as we're thinking about broader impacts and connecting our research, it is really hard. It was really hard to come up with four personas. It was like an hour and a half past. It was really difficult for people to come up with those. And I think that's because it's really hard to get in people's head. So, you nailed it, thank you Nicole. All right Carol, you know I'm going to call on you. Carol was helping us over with Government Gloria. And Carol is a communications expert. So, Carol what insights did we have or what did we learn? What can you share with us?

Carol: Well, first I want to go back and make a comment about Farmer Fred because I do have another job that is part of my, my career path has been communicating directly to farmers about research and so it is not an easy task and sometimes there is more than sometimes, there is more than one step and one way. And its several steps to get to the farmer. And so there's times where maybe we're not ready to talk to Farmer Fred yet until some of that research gets done and and ready to to be directed to him. So I don't think that's a bad thing, that you can't make that direct connection.

I really don't cuz maybe we're not, like I said, they were not ready to talk to Farmer Fred yet, but I going back to we were with them Government Gloria. We, uh, trying to make those connections with with her. And it's, it's one once again, it's not an easy task either, cuz they're very, very busy and they're getting information from everyone. If you're in the government, maybe your, maybe you're not a science-, obviously maybe you're not a scientist. So you've got to talk with them, talk to them in a language that is simplified. And so sometimes it may be hard to simplify what your research and what you're doing in order for them to understand why it's important. So I think those are good, to me that's the biggest the biggest hurdle.

Cass: Great, thank you Carol.

Shawn: Carol, Just very quickly. If you want to look at slide 14, Farmer Fred, any ideas you have to fill in. Welcome any insights you have. I know that's jumping ship from Ian, but Farmer Fred could use your help.

Cass: Just as a point of order, you may all jump onto any of them and add notes if you have expertise, you know, we kind of randomly selected. But you know heterogeneity of teams as you noted in chat is super useful, you get more diverse ideas for those with which you were not randomly selected, are welcome to add those ideas. Very exciting.

Okay, I'm going to go to the next question, which is how could you better coordinate with stakeholders to improve broader impacts? So when we fill out grants, for those of you who have gone through the granting process and you know, there's that dreaded broader impact section. One of the reasons we do this is because we say, no, no, if we actually engage the pre, the post, the during, you know, if we really think about these touch points and leverage them, we can improve our broader impacts. So here's just a question of how might you coordinate to improve your broader impacts. How might you think about it, how might you drive that whole that whole outreach section in your granting?

Cass: Shawn, can I pick on you?

Shawn: Yeah, I just thinking, I think I wanted, well, boy just giving up all sense of control because I want to say, well, it's really the funding agencies who have a huge hand here. If they don't require it, then it ends up being outside the scope of the research and so much research we do, if needs money to fund it. So I think, I think the funding agencies, yeah, they've got to be at the front end of this of really saying, you must have certain members of your team and the broader impacts is a step in that direction, but it's really easy to craft research that gives great broader impacts. But that still keeps you on a very narrow, lean, homogeneous team and problem set. So I think this funding is kind of the funding agencies, really have to push us forward and outside of our traditional networks and user groups.

Cass: Megan did I see you lean into this conversation?

Megan: I was just thinking that it takes at least a decade for things like that to change other. Based on other changes from agencies.

Cass: I mean, I totally agree. But that is why we're here. So let me say, one of the reasons I do my work, the focus of my work at the umbrella level is to translate data into action and I do a lot with health groups and agencies. And the average time between when something is published and between when it gets put into programming and publication is 17 years. That's the average. And so, the reason we have developed and promoted all of these sort of humans centered training and outreach opportunities is because we are trying to shorten that lag time. So when you said its no, no, it's 10 years. I want to cry and say no, that shortens it, that's good. But actually how can we use these ideas to like really address that lag? It's good for us to be more diverse and

inclusive in lots and lots of ways and it does support better impacts, but what makes it more effective research on a shorter time frame? That was my pulpit speech, I'm done. Please someone else talk now. Yeah, good point, culture change is way more than ten years.

Rachael: Nicole do you have your hands up?

Nichole: Yeah, I do. I'm going to try and figure out how to put it down now, but I was going to say that as someone who is actively trying to reach out to the community, it seems really hard, right, to get people involved when everyone's very overscheduled right, in our work life, in our personal life. So, you know I, I think you need a bit of a culture shift in that sense as well, to be able to participate in some of these bigger projects. Even if it's just, you know, one time or two time, or as some people did for this two-hour meeting. They hop on for 30 minutes and they give their two cents. I would love to see more of that. But if anyone can, you know, crack this nut, I would love to hear it. It's really hard to reach everyone and and hear everyone's voices.

Rachael: One nice insight that our Industry Ian team and Gloria, er Lenore and Sylvia both head to to leave, but they were really focusing on that frustration for Industry Ian with the broader impacts. We're talking about how to do we coordinate with them. And this, this big issue for them is that conflict between IP and profit and academic, freedom, and transparency and sharing the knowledge. And for Industry Ian, that was a massive issue.

Cass: Excellent point. Thank you. Good job Industry Ian team. Okay. I'm going to lead us to our last question. And then, just so everyone knows we're going to stay on, if you have like pointed questions about using human centered research or human-centered design in your research activities, how to promote ELSEE or DEI. We're going to be here to jump into private breakouts with you if you want. You don't have to, we understand everyone's busy, but we wanted there to be some curated discussions at the request of anyone who's on the call.

So we will stay on if you're interested, but our last question to the group is, what can you do, to engage diverse viewpoints through these touch points, through the Journey map? They're going to be, you know, some of the users of our research, we want them to be the users of research, we want to engage with them, we don't want it to be hard like Nichole said. Culture change is difficult, like Megan said, you know, Carol works with this every day and has also shared, this is a tough task. So, so who do we start with? Who can you engage? How do we start? Who do we start with? Its where you get to give your advice to other people.

Shawn: I'll just make a comment and say I know this isn't a problem that's unique to AG2P. This is science wide problem. The nature of science is we get specialized the farther along we go. The more narrow, we get in that, makes it shiny and valuable and irreplaceable. But it also kind of detaches us from some of these stakeholder groups. And so, do you know programs like this really helpful because thinking that way in my

particular area of research, I think one of the best opportunities is to get out in the field, is just to get out of the lab and whatever the field is in our specific scientific niche areas. Get out in the field and look back at the academy, look back at the lab, look at our Institute from the outside-in. We see things a little different from out there and we meet people but we wouldn't otherwise and hear voices and perspectives and sometimes that's that bright light. Sometimes that's the oh man, I can't believe I haven't been thinking or talking to that group, or thinking about that problem. So to my mind getting out in the field is step 1.

Cass: Love that answer. Shawn, we do a lot of mixed methods and and Shawn is very good about reminding us get out in the field regularly. Great answer.

Cass: I'll give one from my personal experience that may or may not help, is you know, I've been lucky enough, I didn't feel lucky at the time. But I've been lucky enough that there's a lot of my research has been picked up in the popular press. So my Master's research, even as a student, was in the popular press. My dissertation research was in the popular press and so I had to learn how to talk with magazines, newspapers, radio spots, communicate the research that I do early on and that was a whole lot of training that I never got as a scientist, that really, I had to learn how to talk about my work in totally different ways and in soundbites. And as a postdoc at the University of Michigan, and I was getting all of this press, they made me go through science communication training and one of the books to read was, *Don't Be Such A Scientist*. So I had to like deprogram to learn how to talk to people and that was also a huge learning thing for me. And it helped me, I think, in terms of this diversity of points because I had to really think about the public as the user base of my research and not just other scientists, it really changed the way I thought about research. Any other ideas?

Cass: Okay, then what I think we'll do is we are going to be here for you if you would like to chat more. We appreciate the time and effort. Like that actually has I scan through the work that was done on these Google slides, hi-five everyone. Really good stuff, we're excited to put this together in a report share back with all of you and the AG2PI stakeholders. I hope this can be really helpful for people about thinking about these touchpoints for the real users of a research and how that will improve ELSEE.

So here are our big take aways for today. We want to intentionally incorporated the diverse ideas, perspectives, and backgrounds from the very beginning. When we need to think about these people, build our personas up, or as Shawn said, get out in the field and actually meet and talk the folks. And the reason that we do personas is so that we can understand who we're communicating with, who we're communicating for, why we're even doing parts of our research.

We did the Empathy Maps so we could really get into people's head like think of what is life like for their eyes to just give us a moment to reflect on, on the, the people that were working with.

And then we get the Journey Map because you know design-thinking says this is a really great way to think about the whole experience. So as you share your research with Scientist Susan, with Government Gloria, with Industry Ian, with Farmer Fred what is their experience with our research, how can we leverage those positive moments of truth? How can we help avoid those negative moments of truth? I might be holding them back from incorporating and taking the research on.

One of the big ideas is we really try to have a diverse and inclusive team and allow a whole wide range of conflicting ideas to make sure that we really, really promote this in our group. So, we need to go beyond diversity and inclusion in just our team and we need to think about those upstream and downstream contacts, and research opportunities, and people to share with all the way through and getting those voices and perspectives in. Then, so big picture, pulling it all together. By enacting some of these principles of human centered design, we can really amp up the the diversity and inclusion, because we're amping up the background and the diversity and the experiences that people have.

And it really helps one of the reasons we like to do it is it helps drive new scientific inquiry, to answering questions that are really pertinent to our stakeholders and not just to the researchers themselves. And sometimes this is really promising, because if we want uptake, we want a short time lag between when something's published and when it's actually used. We want to be thinking about the research we do from the perspective of the users of research and that's one of the ways we can decrease this time lag and make our research more effective and really meet the needs of the people that we work with.

So, if you have questions here our emails, please reach out to us. We'd love to hear from you. And then we'll also stay on after this. I'll, I'll cut the screen so we can see faces. Happy to jump into a breakout room and chat with you further if you're interested in sort of of our human-centered process and what we do or why we do it. We're happy to stay out on with ya. So, we really appreciate your input. You are the experts here today. Thank you so much. Thank you for helping us fill this out. We'll share it back with a AG2PI, it's been great to be here. Thanks, everyone.