Open Rivers Navigator
Season 3, Episode 6
John Reich

Shefali Mehta (Host) (00:09):

Welcome back to season three of Open Rivers Navigator. I am your host Shefali Mehta. I had the chance to work in agriculture and the environment all around the world. And through this work, I've met so many incredible people. This podcast is my way of bringing their unique stories and passion to you. Season three focuses on data and technology and how they are shaping the world of agriculture and our environment. Today, I am joined by Dr. John Reich, a scientific program director at the Foundation for Food & Agriculture Research, focused on urban food systems. I hope you enjoy this episode. John, thanks for joining Open Rivers Navigator. We're really excited to have you.

John Reich (00:56):

I am really excited to be here, so thank you for having me today.

Shefali Mehta (Host) (01:00):

So I had the chance to work with you through your work as a science program director at FFAR. And as I work with you, I learn a lot about your really fascinating story and kind of journey to this space that you're in now. And I wanted the chance to share that with others just because I found it very inspirational. And I also found that it really kind of exemplifies what the best of what we have when we bring like talent and diversity into science and come from kind of all perspectives. So how did you kind of find your way to science?

John Reich (01:31):

You know, science actually really didn't start for me until I decided to go to college. And it was when I took a class, I took two different classes. One was in botany, which I really, really loved at the time and I still love, and the other was in chemistry, which I also really liked. And so through those exposures in college where I was just like, oh, this is actually really cool. And I viewed, so before I went to college and when I started in college, I really wanted to be into political science. And that's what I thought I was going to do. I really liked politics. And I really liked being, having the idea of being able to help people through change either through policy or whatnot. And I think I discovered through science, but not only was it like intellectually great for me, I enjoyed it.

John Reich (02:19):

And I was very curious about just kind of the world around us, but I also viewed it through my body class specifically as a way to bring about social change. So at that time I was very, very interested in food security and still am interested in food security. So before going to that route, I did a lot of things like Food Not Bombs and volunteered at food banks, et cetera. And it was just always looking for ways to help people in need. And so I saw through college, I saw science with my first botany class. I saw science as a way of helping that at a larger scale.

Shefali Mehta (Host) (02:52):

And your path to college was also somewhat unique because there's like the, I think we, we tend to, as a society really focused on though, I'm gonna call that very traditional student path where you think you're going to college. And then you just have these expectations that, which actually is not at all reflective of the majority of the population, but I think it's, it's like a conventional narrative and you actually took a different path to find your way to like what you wanted to study and focus on.

John Reich (03:17):

Yeah, my path is I don't even know where to begin with my path, you know, so I did drop out of high school at one point in time and I did become a teenage father, uh, during, around that same time. And during that time, you know, I was working a lot of different types of jobs. And I remember working for a collection agency, which was a very, very hard thing for me to do at the time and thinking, I didn't want to do this for the rest of my life. So I was just like, well, I want to pursue other things. I want to pursue my interests. So I went ahead and got my GED and started going to school.

Shefali Mehta (Host) (03:52):

I think that when you share that with me, it was really surprising because it's already very difficult to complete a PhD and to go through graduate studies and science. And when you share that you had actually gone through like dropping out of high school, becoming a parent really early with all of the responsibilities that come with it and then completing your degree and doing that later while still juggling parenting and everything else that was coming with.

John Reich (04:15):

Yeah, I, yeah, it was definitely a struggle, but you know, I kind of felt like I was the type of person that kind of like struggles, I guess, I don't know, or just wanting to kind of go my own path. So, you know, when I dropped out of high school, I was a squatter. And then after I, as a squatter, I was a couch surf. So I'm very grateful to the friends that I had and their parents that allowed me to do that. My sister, who I was close to at the time, you know, at points in time, I slept in my car. So I think all of this kind of teaches perseverance when I went to college, you know, we were really didn't have a lot of money. And so I worked from like 6:00 PM to 6:00 AM with alternating three days shifts a week, and then I would go to school full time.

John Reich (04:56):

And then, you know, all the other responsibilities you have, and then it was just really, I think I really just slept in class. That's how I kind of survived that. And then, you know, deciding I was gonna go to graduate school with kids. That was a really good decision, I think. But, you know, before I went to graduate school, even though I worked full time, it's hard to make a living nowadays. And back then it was still hard to make a living, not as hard as it is now, I think. And I think that, um, you, as you know, there continues to be challenges for people who don't, who don't fit into a specific mold, right. And even in graduate school, I remember having a professor who I really love being like, you're not going to be able to do this because of X, Y, and Z.

John Reich (05:39):

And I was just like, well, I guess I'm still going to try. And, you know, then she became like kind of a cheerleader for me. So that was really good. And then, you know, the struggle continues to the day, every, every aspect, there's something that somebody wants to highlight. If you don't fit into a specific structure, whether it's like you come from a different class background and that shows up where you're

at or whether it's because you've looked brown or because I'm also gay. And so it's just different. It's weird hearing how people pick and choose what they're going to go after you add just to pertain that you can't actually accomplish something. But, you know, as you know, Shefali, you know, I'm sure extremely well that it just allows you to persevere and it allows you to overcome challenges that other people think are impossible, right. Because you're just so used to doing it. And so you still proving yourself to everyone.

Shefali Mehta (Host) (06:30):

Yeah, it is interesting. And I think definitely a theme that's come up through these different podcasts. And these stories is like the idea of like resilience and how resilience forms. And I, I always found this fascinating about science because on one side, the idea and the premise of research is about being open and innovative. And yet exactly what you say seems to be pervasive where people actually have very narrow expectations of what a scientist looks like or what a researcher looks like. And when you deviate in any way, there is a tendency to maybe discount or question where I would hope we would go the other way as a society. And actually be curious and say, this is great. If someone has a different background, that means they're going to bring that perspective to research where we really need it.

John Reich (07:14):

No, I completely agree. I think that having diverse backgrounds present definitely brings a different perspective. And sometimes, you know, with like, I really do feel like the problems that we face in this world that we haven't been able to overcome and problems largely that we make ourselves. When we're trying to overcome them and we're looking to the same old people to do the same old things. Then, you know, logically you would think that that would never happen. And, uh, having people like you or me, or a variety of other people, we approach problems differently. Right. And since we had to persevere we're also understand that one approach to a problem isn't necessarily the one that's going to work. And so I think that we get used to you do this in science, but I think more so from the kind of area that I'm in now, which is the science funding or determining how to solve problems and what research needs to happen, you approach it from like, okay, well, we need to figure out actually how to solve this problem. We are going to take all these different approaches to figure it out. We're going to do things a little bit differently because things haven't been working. I typically will prioritize things differently that are important, right? And so that also shows up in my work.

Shefali Mehta (Host) (08:22):

I love this point. I want to draw this out because a lot of my work is I work with organizations and individuals. I'm often thinking about how do people make decisions? How do they make decisions, run investment, focusing on research. And what you're describing actually is really interesting is because prioritization and prioritization across topics is a critical part of decision-making. And actually one of the benefits of diversity is when you have different people who prioritize differently, it means you have different people who are taking different angles, which means no one is you don't have a situation where everyone is focused on the same set. It's almost like if you're, you know, if you think of a sports team, you don't want all, you don't want everyone to have the same skillset. You need them to have varying ones that are complimentary. And because of this like different way of prioritizing that you would take, it means that you bring, you bring that approach. And that means that the work is more complimentary and that the team is more complimentary. And it's actually a critical part of why diversity of perspectives and backgrounds is so important in work environments. And especially in, I would say science and research.

John Reich (09:21):

No, I completely agree. And I, I definitely think that to your point, it definitely works really well on teams. Like I don't, I personally do not like doing anything alone. I don't think I can accomplish things by myself at all. And having these kinds of diverse perspectives allows you to make, I kind of think sometimes leaps in solving challenges that you wouldn't be able to make from the same old perspectives, right. Because let's face it, at least in the past, they were always, almost always similar, very similar perspectives. And I think that, you know, one of the things I think it's really interesting when I hear people talk about, we need diverse perspectives is that I think that organizations definitely want diverse perspectives, but they don't. And I can't speak for all organizations, just from what I see. Sometimes they don't realize that means that those people aren't going to behave or look exactly the way they want them. So they want to hire the same people based off, this is what they look like on a resume, or this is what they look like in person. And this is how they interact with me. They want them to act all the same, but then they want them to come up with different. They want them to be different somehow, you know? And it's like, well, that's not how that works. I don't know if that's very logical, but.

Shefali Mehta (Host) (10:29):

Absolutely. It's actually one of the challenges I think in workforces is recognizing that it involves opening yourself up to the whole person. You don't get to pick and choose, and that the, it means your culture and how you approach things becomes more diverse. And it's interesting because both of us work in agriculture and food. And I think that actually kind of highlights this. So you've been working now at the Foundation for Food & Ag Research for a couple years now, more than a couple of years, right.

John Reich (10:57):

Five or six years, I think

Shefali Mehta (Host) (10:58):

Basically from its onset when it was founded. So, um, we've talked a little bit about the Foundation for Food & Ag Research before, but why don't we just share a little bit about FFAR because it itself is a pretty unique organization into how it was founded and what it does.

John Reich (11:12):

Yeah. I think FFAR is a really cool organization. In fact when I first heard about it or the formation of it I was like, oh, that's an organization I really, really want to work at. Um, but the Foundation for Food & Agriculture Research, you know, as you know, was formed by Congress in the 2014 Farm Bill, they were given a $200 million to kind of spur innovation in food and agriculture research, similar, very similar priorities to what USDA had in the Farm Bill with the caveat that we cannot spend any of our money on research, unless we were provided the same amount in matching support, right. So let me, that might be a little bit confusing the way I explained it, but an easier way to understand that for your audiences, that if we spend a dollar on research, we have to have a dollar from a non U.S. Federal government entity, which could be a variety of sources.

John Reich (11:57):

So I think that was really kind of our impetus to create public private partnerships, right? So trying to solve food and agriculture problems with the private sector, with us being the public component of that. And so we work all over the scope of food and agriculture, and really try to pinpoint areas where we think can make and where we can have an impact. Right. And so, because we have to make those private

partnerships, it means that we can't pursue every really great idea that's out there. And so a lot of people they're like, you should be working on this, this, that, or the other. And you're like, well, if I can't build the partnership around it then. Um, we can't pursue that area.

Shefali Mehta (Host) (12:34):

One of the interesting elements too, of the formation that I always found exciting is, it was also a fully bipartisan choice during the Farm Bill, that there was support across the board. And I think that speaks to the fact that ag and food is, it touches everyone. It touches every state, it touches every congressional district. I mean, for what it's worth, some of the cool bipartisan things I've actually seen happening have happened in that space and in conservation. And that's actually been kind of heartening when those moments happen. What's cool too, is that because of this interesting setup, FFAR has actually exceeded. So that $200 million has actually resulted in over 440 million and in terms of actual granting and like that means that's matching is having more than a dollar per dollar. So you have private sector companies, you have all kinds of groups that are coming together and really kind of seeing the power of working together and bringing together their shared strengths to the table to go after some pretty meaty, tough problems that we have in our industry.

John Reich (13:34):

Yeah. I, I agree. And, you know, I think that's largely due to our executive director, Sally Rockey, she's been great. She's a great boss and has a great vision and, you know, really allows her employees to pursue topics and new ways of modeling how we should be working together. So I think it's really cool. I told very fortunate to work for her and very fortunate that we get to explore different ways of working in this space. Cause I think that's what we really need.

Shefali Mehta (Host) (14:02):

Absolutely. And it's interesting is the science program directors, each of you have kind of a mission area and each of you has a pretty different background. It's actually cool. Like you, uh, you do you see it in the bios and the experiences that you bring. And I think that allows you from a very tactical perspective to be able to, to take that mission that FFAR is granted of really driving innovative, applied research to a different level because each person does have a different perspective and you're able to learn from each other and share and find really cool points of convergence that you wouldn't otherwise, if you did have similar backgrounds.

John Reich (14:39):

Yeah. I think that is one of the strengths of FFAR is that we do have different backgrounds and different ways of approaching problems. And we do communicate a lot and how we should approach those problems. And sometimes we disagree on that, et cetera, but we get to explore new ways of doing things, which is cool. So you, as you know, I created the, I mean like all the things that we do there, I think are fairly new, at least in the food and agricultural space, in the U.S., you know, and how we partner. And sometimes it's really scary. So again, to like the diverse opinion, things like, oh, I'm gonna try this new thing. I'm afraid it's gonna fail. But because of, uh, you know, the staff they're having to persevere through all their different circumstances in life, we find a way to make it work. So I created our first consortium there and that was a very scary thing for me, half the time I walked through the year or year and a half, it took to, to form being like, ah, I don't know if I know doing, and is this going to work? And there was a lot of, there was some resistance actually to it, but, um, it worked out as we can see now.

Shefali Mehta (Host) (15:43):

I think it's, you know, that's a very normal human response, even when I think people are excited because it's new, they involve change. Change is scary. Change is different often. That's where people don't realize is those initial steps are the ones that take actually some of the most energy. Once you break down some of those barriers and carve that path, that's when things really start rolling. So like for you to have helped create those consortia from the beginning and seen it now, it, it, yeah, as you said, FFAR is a leader in consortia. You're great at convening bringing people together. But it's funny to think that, you know, about five, six years ago, this was pretty novel. From square one of what that looks like and how you can go about it and gaining the trust and openness of all the different folks, because ag and food is a pretty, I don't think people realize what a diverse and big industry we are and how many people we touch. And so we're talking about a lot of different people, organizations and moving parts, right. To really bring into the table.

John Reich (16:41):

Yeah. The convenings were something else to bring it, putting those convenings together and figuring out how to do them. And I think that we're pretty good at it now, but you're right. Like the food and ag space is just so diverse. Like even the scientifically from agronomy, plant genetics, molecular biochemistry, physics, all of those different things, computational aspects. It's just almost crazy how many different aspects, um, touches food and agriculture and how much you can actually borrow from other sectors to advance that, this area.

Shefali Mehta (Host) (17:08):

You never stop learning. It's one of the, I've definitely enjoyed working with you over the years because I feel like every project we work on, every effort I learned so much about that. And it's for what you said it, I mean, I'm biased, but I think it's one of the only sectors where literally every single discipline can show up, right. There is I have been able to, there's almost no one that I have not worked with that I've thought about, you know? And, and I find every connection to any person that there's some, some connection back into what we do when it comes to ag and food, because of it, how ubiquitous. So the upside is like, there's, there's almost no limits or bounds. Like it's the freedom and the imagination to where you can take things is really immense. And I think of that when I, I look at some, the projects that you've initiated. And so, um, one in particular is because we've been working on it, the, um, PIP or Precision Indoor Plant project that you kind of brought to fruition, and now it's moving through and it's unique for many reasons. And I think some of those, partly because I remember folks saying these things can't be done. And as I work with you, I saw that was not true. You were making them happen. So you share a bit about PIP and kind of what it is and its goal and how it came to be.

John Reich (18:22):

Well, you know, I relate, you've seen our logo. So I really love our logo. It has like a grow tower for the eye. And did you know that PIP also means I learned this when we were naming it seed, apparently that's where like, oh, that's a really cool name, but, you know, so when we got into this, uh, indoor agricultural space, you know, indoor ag has been going on for some time, a little bit of time, and lots of VC funding was going into it and you, you got to read all the articles and all these and talk to scientists in this space. You're like, oh, it's impossible. You know, the lighting just cost so much money and growing these plants and these systems are just not going to be economically feasible. And, you know, so I came at from it, from the approach actually years ago, because these consortia actually take a decent amount of time to set up.

John Reich (19:08):

And then once you got going, going pretty quickly. But PIP formed through a convening event that we had at the IBM research headquarters in New York and largely focused on not necessarily the engineering where all the money was going into, but rather on the adapting plants to be systems. And so the premise behind it was at the time is that you all are trying to take plants that grow outside, right? So agriculture has been happening for tens, or, thousands of years, and we've been adapting plants to different environments, right? To increase yield all of these things that your audience and, you know, very well. However, we were trying to take these plants that were growing outside and putting them in a new environment rather than adapting them. I guess they can't work, you know, because of the lighting constraints. And so the premise behind PIP was, well, we should start adapting these plants, these systems, and then maybe this will become a really economically viable industry.

John Reich (20:06):

And so that's what we're working on now. And so we got folks from the industry together, we worked with a number of groups initially from different countries and determined that this is the area we wanted to focus on. And then when we formed the consortia, there was a couple things that were really important to me. One was that the groups shared data between each other, right? So especially for working on projects, but as good, good stewards of public money, it was also that we would have the option to utilize that data for future scientific discovery, because it is public and private money that goes into it. So it's one thing, it's one thing to say this at the get-go of a consortia, it's another thing when you're implementing to actually do it, and you have been in the weeds with, with us on this Shefali.

John Reich (20:52):

And so we very much appreciate working with you because it's just been fantastic and really great ideas really help us move it along. So very appreciative. But, you know, in terms of where we're at in PIP, you know, we have some projects that's kind of an industry partner partnership right now on lettuce from which has already been leafy greens already been adapted. We have a project where we're funding a project called sky high in the Netherlands, um, or co-funding or project called sky high with a number of other partners, focused on a variety of crops, lettuce, potato, basil, strawberry, we'll be announcing soon a project in tomato for indoor agriculture that once that contract gets signed, I hope within the next couple months, and then we'll be focused on an RFA. That's going to come out next month on premium flavors and strawberry. So it's part of our consortia.

John Reich (21:42):

The reason they work is because the industry get a say and an input and where we go, we reduced the risk of funding, high-risk research, right? So one company alone may not want to fund something that's going to take a long time or cost too much money, but if they can pull their fundings and reduce the cost of it, then they may want to do that and then access to that data early on. Right? So having early access to things cause you're paying for it before it gets released to the public is also a really important selling point.

Shefali Mehta (Host) (22:11):

Um, I feel very fortunate. I've spent a lot of my career working in the R and D space across areas, uh, both as a researcher, but really getting to work with the folks who run the portfolios, think about all sides of it. I find it fascinating because this is the engine that drives like this is what drives our innovation. And one of the areas that I think folks may not know if you're not directly in it is it's a long game and it's a

risky game. You're perpetually as much as you want to engage in research. And I think this is actually one of the areas that the U.S. historically has excelled in. We were the leading agricultural researchers in the world, um, both from the government perspective and overall private that has maybe shifted in recent years where we have maybe slipped on our footing.

Shefali Mehta (Host) (22:55):

Um, however, I'd like to believe that we are still kind of in a leading position. And part of that is a mindset of finding ways to make it happen is what you're describing. So are there ways for us to de-risk it, are there ways for us to still be that innovative and find different ways of doing it? I love this model because you're bringing together a lot of different folks who each individually organizations have a lot of strengths and they have different kinds of mindsets and culture in how they approach it. But also as you said, it's a mechanism to de-risk it for the individual organization. So they can still get the benefits of the research without necessarily having to carry the full load themselves.

John Reich (23:33):

Yeah, no, I completely agree in this whole kind of exactly what you were saying about, you know, funding levels decreasing in the U.S. not necessarily at least some funding levels being the leaders in the world, pretty close to it, right. I'm guessing, you know, I will say that in terms of where FFAR sits in the ecosystem, you know, it's really combining what the private sector interests are to working together. And that largely rests on the basic resource that a lot of agencies are doing that the private sector may not necessarily want to invest in. Sometimes I think they do sometimes I think you can convince them to do something like that, but, you know, like, so we sit in this ecosystem, a funder is really where you have basic funding being funded by the government, which I think happens across the world, right. And where people are allowed to pursue a lot of different types of ideas.

John Reich (24:21):

And you don't know where those ideas are actually going to lead to, to us where we can fund some basic research, translational research as well. And then the companies come in and take that information, whether they're new startups, whether they're established companies or not, to actually enact some of the goals that we have in society. But, you know, like I think one thing that can really help that more in the U.S. is probably, I personally feel, will be more coordination between these different sectors. And like, it's one thing to have a plan at a kind of government agency level. It's another thing to coordinate that plan with other government agencies or people in the nonprofit sectors or, or business things. And I think for the most part, we, the seems like the U.S. government really tries hard to do that and have been successful in some aspects of it. But I think in order to move it forward more, there needs to be more coordination between these different groups, right. And some strategy developing a strategy together.

Shefali Mehta (Host) (25:16):

I think there's a lot to be said for collaboration, coordination, it's hard, right. And the, as the organizations get larger, it becomes harder, right. And so a lot of times like the, you know, I enjoyed working at startups and part of it is there's an agility that just comes at the size because the decision-making or the ability to have that just happen so much faster. And I think in, when we're talking about a really large organizations, especially when you think of U.S. government agencies, basically, I would say like when you put them in comparison to a private company, it dwarf every private company, right. We can't even think of that, the magnitude. So the coordination energy goes to a whole other

level, but they're the examples of the times when agencies, especially, I think agencies are maybe not always expected to work together. They find those, those intersections there's tremendous work they can do.

Shefali Mehta (Host) (26:07):

And I think they are able to not only leverage that complimentary effect, but like you're saying, there's an efficiency element that they're bringing to the table. And again, because they are so big. So the same thing that makes it difficult to coordinate the flip side is their impact, and the cascade from their work is greater than any other organization often just, and that's why government has played such a key role in research, historically. I'd like to take a moment just to explain the difference between basic and translational research for some listeners, the concept might not be so familiar. So if you could explain that a bit, I think it'd be helpful.

John Reich (26:41):

So I was a molecular biologist, geneticists, biochemistry, all that kind of stuff before. And so I always really consider at least some aspects of that basic research. So, you know, like when we discovered the structure of DNA, all of those types of things that we're just looking at fundamental questions, but you know, like if I were to use those examples of like the molecular biology basic type research, how they're translating into like breeding targets to make crops more resilient for farmers, I think that would be a more translational thing. Um, I don't know if that answers your question.

Shefali Mehta (Host) (27:14):

I think it's, it's those, the basic research is foundational. You don't necessarily have an application in mind. You're trying to really understand, like you said, basic concepts. And then as you, as that research evolves, then people can really take it and think, well, now that we know this, how can we apply it? But they're two different, they are different in terms of how they're funded often, who is doing them. And we talked about like risk and different timelines. That's also going to be quite different. And I think a lot of folks might be familiar with the Human Genome Project and like what it took for us to get there collectively. But a lot of that was, it was basic research. It was really getting, cracking the nut on like how understanding the human genome, everyone being able to pour in their resources and energy to do that after which there was a tremendous amount of push on the translational applied side, because now we had answered some fundamental questions and I think that you need both sides of it happening all the time.

Shefali Mehta (Host) (28:07):

So it was like a, I think of it like an engine, if you're not funding basic research, you're going to basically dry out and not be able to do translational and applied research. And I think that's the one piece where we have shifted. And I think some of the studies around where that research funding has gone and why we have kind of lost a bit of our step in the U.S. and who's taken over, is that the basic research funding was historically again, government just because it is, it's a public good in a lot of ways. And it's, what's fueled a lot of the efforts. So I think that the more people recognize it and realize it is something you need to kind of nurture and continue, because that it's like a flywheel that has to continue to keep shooting at ideas that we then put into the applied translational side.

John Reich (28:50):

Yeah. Did you see all that work? The new work on the computational sciences now being able to predict protein folding, which is just like a huge advancement, right. And so that was a very hard question for a lot of people, lots of, lots of bench work, x-ray crystallography, all the different types, all of these different types of things to predict structures. And these structures are, I guess they would be considered really, really basic science, but then you can apply that in so many different ways in the medical field, just a variety of different types of, you know, like it's just really cool to see that translated. And that in fact was brought about by just open-source data. Right? So having a warehouse of, from what I understand it, approaching structures that people, that computational sciences could use. So I think that's really cool, really cool example of translation from basic science into things that are really going to impact people probably in the near term.

Shefali Mehta (Host) (29:41):

Absolutly, and I'm happy you brought up data. So our, this season of this podcast is really focusing on data and technology. And the reason PIP is so interesting is that for all the reasons you've said, plus it's about data sharing at the core and data sharing, interestingly, between private companies and the reason I was excited as I, uh, working in the private sector and having, um, worked with the folks in data across it, there was sometimes a sentiment, well, we can't share things. Uh, the private sector doesn't want to share. And I don't agree with that. I think private sector understands the benefit of sharing, and it's just, you need to have a forum and a mechanism in which to do so. And quite frankly, a lot of the people who work in private companies want to, because again, they recognize there are a lot of areas that are pre-competitive. And so PIP is really interesting as an example of where all the companies are creating data together and sharing, and that is allowing them each to again, benefit from a collective piece, but it comes back interestingly to data. And I think the role that data plays in everything we're talking about, basic research, translational research has always been core, but if I hope this day, people realize it is the driving force, like our ability to harness and really understand the data is the differentiator these days for research.

John Reich (30:55):

Yeah, it definitely is. You know, the thing that's interesting about PIP is actually kind of surprised because we do have a couple of competitor, competitor type companies in there, but a lot of our, group, their expertise, they compliment each other, right.

John Reich (31:08):

And so you would imagine like I don't come from the business world and I was like, why don't we all just share this and getting them, especially the competitors to share data with one another, which you were heavily involved in with the PIP project is really cool. And, you know, the fact that these companies are also collecting really high quality data, larger volumes of data than you would get from probably a single academic lab I'm guessing, I'm just thinking about the smaller, not these gigantic academic labs. So the quality and amount of data you're collecting could really be used for a lot of really public goods. So we're spending public money on this, right? And we're spending private sector money on this. Rather, you know, I strongly feel rather than collect all that data or paper, all that data to be collected. Again, we need to find a mechanism to utilize that that protects the companies and what they're sharing and their proprietary information, but also can be used for a public sector, public sector, outside of what they're producing for the public public sector, in terms of advancing more scientific research, you know, and you've helped us work on how we can potentially do that.

John Reich (32:09):

And it's still kind of in progress. So I think for at least PIP, it remains to be seen how far we go. I'm really confident, especially with your help initially very competent that we can work something out, but it'll be interesting, you know, because the first time you do something like that, it just becomes, like you said earlier in this conversation, it becomes easier the next time, you know, and it's, it comes with a lot of inefficiencies, a lot of doing things wrong, tying in the different perspectives again, and not being able to fail, like having different perspectives of people, not able to fail and willing to try different things and not being afraid to fail is really important. Right. And I think that you and I both have those perspectives. So sometimes it's kind of like, it sounds crazy, but you're like, well, we're going to try and work it out. If it fails we're going to try and do everything we can to make sure it doesn't fail, but know that there is this huge risk of ourselves going into that of that happening.

Shefali Mehta (Host) (32:59):

It's actually the joy of research. I think I always am. I, again, love getting to work with scientists and PhDs and throughout my career. And I always am intrigued by who's drawn to it because I think by the very nature of it, you're not doing it well, if you're not failing. Like you're, you need to run up, like you're running up against this wall perpetually. And you're like, okay, we tried it. That didn't work now. Let's try it again. And what I've enjoyed about PIP is that there's, problem-solving happening on the research side that I see the scientists doing around, how do we come to this in a very different way, scientifically from the data perspective, but there is problem solving around the actual structure, right. And that's where you and I spend a lot of time, how do we set this up in such a way that everyone benefits?

Shefali Mehta (Host) (33:45):

And I think I love personally, I'm not someone who's going to take no for an answer. So when someone says that can't be done. I'm like, are you sure? Are you sure it can't be done because I bet you, there is a place where we can find that space. And I think it is, this is, there's a way that we, that the companies benefit for what they're investing in, that the public does. And I think that's the beauty of, yes, you have to think really creatively. It takes a couple iterations. But if you look at our history in the U.S. So many of our advancements came on the back of some pretty creative collaborations and exchange. And I think that's where PIP has been really fascinating is that it's allowed for all levels of that problem solving, and also seeing kind of that ethos and the energy that the scientists bring to the table because they, they are committed and believe in that as well.

John Reich (34:34):

Yeah, I completely agree. I think the interesting thing though, is because, you know, we do work with a bunch of scientists in this field and one of the things to make these collaborations work as something that I think a lot of scientists tried to escape when they were doing bench work, which is these people, people relationships, right? You're when you're a scientist, you're used to being like doing this, talking to your PI, talking to funders about like, this is science that needs to happen. And just all makes logical sense on paper. When you're in a field like this funding, or trying to go collaborations, et cetera, you can lay everything you want out on paper. And it probably makes perfect, perfect sense. However, the, it doesn't really seem that the important part is building relationships with people. And I think what some people don't understand is that when you go into these kinds of new, newer type of areas is that they take some time and partially they take time because you have to build this kind of trust, structure and relationships with people or else they're just ultimately going to fail. I think that these consortiums usually take about a year and a half to develop from my experience and from what I've seen in other sectors, but that person to person relationship, I think if you can form that and you can form trust between people, you can probably accomplish a lot of things that you couldn't, if you didn't have it

there. So really important aspect that scientists aren't used to, aren't trained in, and we're not used to having to do that.

Shefali Mehta (Host) (35:54):

Well, we've talked a lot about the value of kind of science and when it's working. And when it's just the amazing output that we've been able to witness through these various examples and in both our careers. And one of the other areas that we're confronted with as you know, ag and food has a long way to go in terms of kind of inclusion and diversity. And when something is closed, it makes it very difficult for us to help or to support and really for science to be at its best. We want it to go into the hands of those it's going to help in an agriculture and food that's a pretty big community that we want to support so that they can produce food while they can produce food in an effective way and all the way through the value chain. But when we face those issues, it really is a limiting factor in many ways that people don't recognize.

John Reich (36:42):

Yeah, it's been a really limiting for me. You know, there's especially times where you actually kind of think about leaving the sector because of, you know, not being heard or, you know, people wanting diversity, but not appreciating your perspective on that, right. And so it's just almost sometimes like kind of lip service. I don't think it is, but, and when you're in the moment, it feels kind of like lip service. I mean, there are instances where you create something and someone doesn't believe that what you're doing was created and you provide all these examples. Like, no, this is actually happening right now. And they consistently will say, but who wants to do that? And like, well, all of these people that said they did, but they don't really hear you. And it's just really strange to me. And there are other instances where I felt, you know, I've talked at meetings out, like after a politician has talked and, you know, being a gay man, they've said some kind of derogatory things about gay people.

John Reich (37:39):

And then, you know, then it becomes challenging for you as a person in terms of, is this where I want to be? Should I say something about this? Cause I'm representing this organization. And then you ultimately decide that you don't want to, but you don't want to be compromised like that. And it's funny, you know, because in that specific instance, I've had that same politician after I spoke, come up to me and it was a pretty prominent politician. Um, come up to me like, oh, we really need help from the state. And it's like, but do you realize that I'm a gay man that you're talking to now, you know, the person, the person that you just disparage, who wants to support food and agriculture as much as possible, but now sometimes we're faced with this and you know, you know, this, this isn't the, these examples, aren't the only time these things happen.

John Reich (38:25):

Right, and so it's just kind of wears you down and it's like, do I belong in this space even, but you know, I don't disclose that to people in this field just because that, you know, I'm afraid it's going to turn them off or they're not going to hear me or not be interested in working with me again, because I can't hide that I'm a brown person, um, when I'm talking to them. But that, that there is this other aspect where I can hide and it makes me not feel included. It makes me not want to be part of it. And it makes me hide part of my identity, which is, um, I think it's good that we're in this day and age where it's becoming more accepted now, but I, I personally feel in the I've experienced more of this in the food and ag sector than I have in other areas.

Shefali Mehta (Host) (39:09):

It's tough. And I appreciate you sharing. Uh, it is a consistent theme that I've heard, um, from different folks, especially people of color, especially people I would say, uh, from the LGBTQ community in this, uh, arena. And I would say different. I've had comments also like on the immigrant front there's religious ones. So it's that different. I think that there are two levels of loss that we're talking about. So one on the societal level, because we're not able to get those solutions heard. So even after all this funding, all this work, we finally kind of crack the nut and you're finding these arenas and people don't want to accept them because they are often, I don't even know if they're consciously recognizing, they are blocking us from delivering solutions they need because of some internal biases or issues. But then there's the second piece you hit on, which is the individual loss.

Shefali Mehta (Host) (39:56):

And that's part of my impetus for this podcast and why I was excited to have you on is I don't want more people deterred from this field. If anything, ag and food needs everybody, we need the best minds. We need the best energy we need the diversity. And what I don't want to hear anymore is people who are, who come with their passion and come with their heart and put everything in saying, can I still fit in the sector? That seems like it keeps pushing me out and what my I'm hoping that we are starting to see a shift in the sector. I'm hoping that people recognize that it's an imperative, honestly, to save a lot of the sector and like really truly be able to, to meet our ag and food needs that continue to become increasingly challenging across the globe. But I think the personal loss, I think it's hard for a lot of our colleagues to understand because they might not see it or in your case, you're actually hiding it. But there's a huge cost in the back end that I think we need to explicitly deal with an ag and food. If we want to make sure this is someplace where everyone can do their best and we can move forward together.

John Reich (40:56):

Yeah. I mean, like, I think that's true. Like, you know, the personal costs really is like, you feel like you have to give up something about yourself and your identity to, but then we, we meaning me, you, other people I'm sure on your podcasts have really strong convictions and really believe in what we're doing and want to do our small part in this world to make things better. And so we kind of tough through it, but, you know, I have to say, I don't think, uh, definitely a lot of talented people, but I don't know, especially in this day and age, I don't know how many people are willing to give up part of their identity to, to pursue certain aspects of their convictions. You know, that's also a large part of their convictions. You know, when you have somebody that's passionate, passionate about something and losing that person is just a huge blow because the people who are passionate about something find any way they can to make it happen. You know, they stick through it through the good and bad, and they work very, very hard and they find alternate solutions and you're pushing those people away, especially if there's a diverse perspective, but it's a huge loss, but you know, things are getting better.

Shefali Mehta (Host) (42:00):

Absolutely. And that brings us to the end. And I always like to wrap up with a, you know, what gives you hope as you look forward?

John Reich (42:08):

Well, it gives me hope. So, you know, when I look, uh, so I just moved to Philadelphia and I really like it here. And just seeing here and across the country, you know, cause we get to travel a lot, like all and reading about all the good work that people are doing and like really just great Americans trying to solve

problems versus this alternative narrative that we get from the news of like how horrible and nobody's able to work together. What gives me hope is seeing all these people who can come across their divisions and work together and it makes it seem like it's really possible to solve all problems. So more and more of that hearing more of that gives me hope. And I think there a lot of it out there, so I'm optimistic because we have to be, right?

Shefali Mehta (Host) (42:48):

Absolutely. Well I want to say thank you again for joining and sharing your thoughts. I'm, I'm excited that your path found its way to ag. I think we are very lucky to have you in the sector. And I think that I'm hoping that more folks see themselves in it and realize there's not one path into this sector that really anyone can find their joy here and we want you here because that makes us better overall. So thank you so much, John.

John Reich (43:13):

No, thank you for having me really appreciate it. It's been a great conversation.

Shefali Mehta (Host) (43:21):

Thank you for listening to this episode of Open Rivers Navigator with John. Learn more about John and the topics we discussed on Open Rivers website, open-rivers.com, where we have links to many resources and related topics. Our next episode features Dr. Lakisha Odom, where we circle back to the series on diversity and equity that we did in season one. Please rate, review and share our podcasts on whichever platform you're listening to us on. Thank you for taking time out of your day to join us. And we hope you join us again.