00:00 **OK, so start and get to know you a bit, what kind of research do you do?**

I it's blown to like because it's biology, botany and it's basically doing phylogeny. It's like to try to use those molecular sequences to interpret the relationship among the plants differently than chimps.

OK, so what is the goal of your work then?

00:31 It's like my work is the reason I come here. The first project is the opportunity for my life. You must have heard it's true of life. It's like using all those sequences data to interpret what the like all those of these are what I specifically focus on the plants and the other people like working on fungi, other animals, other organisms, see how they relate to the whole evolution.

01:07 It's that they have shared the one common ancestor, how they all do that on evolutionary time, how the diversity flies like decorate and so colorful on this planet.

Yeah, OK.

So basically you can see this is one part of my work is that there is the one hundred forty families. You can use this more accurate data to see how they like to grow from.

01:36 They are really related. And what kind of confidence do you support this relationship. So you really like our kitchen, what we see with strawberry peach apple for our daily life, we like you. This is a fruit we are consuming. But for their relationship that from the same family, just the taste, the strong creatures, the morphology that looks so different.

02:06 **Yeah.**

So what do we care about the interest in doing this kind of group and see what like genetically what they can influence our corporate culture. All those nutrition connect to human society, education system.

OK, so what is the impact, potentially impact of your work?

02:34 It's like it's like hard to say it's real. So you really people it's like, oh, it's like some people are allergic to Maku. Some people are allergic to, like, poison ivy. So actually, it's not a surprise because they're from the same family.

03:00 So my work, I can tell you why, say, you know, people sometimes are allergic. They've received about half the same reaction, I can tell. There must be some biological reason, some chemical. They hide because the siblings from the same family. So they contain some similar compound.

Yeah.

So we can show you really what we see with the eye, like we are all eyes and all the morphology are really misleading.

03:32 So you if we go deep by those molecular phylogeny information, we may tell the truth. My find really we hide this. So another example is like you see in people's garden culture. So something is like this. They have spies.

03:59 But what we see is you raise our CAPTUS like most times from a cactus Fumie, but not all of them. Some of them, because the evolution, they have a really different habitat. So they are just like maybe a secret like cactus, but they are not really from the cactus family. We cannot tell from your eyes. OK, morphology. They are so similar because they will try to adapt their environment.

04:29 So what we can tell we can you do the sequencing.

OK, yeah, that's cool. OK, so now I'm going to start asking some questions. Collaboration. So on average, how many collaborators are on a given project that you're working on?

It's really depends on the scale of the project. But for me now, the whole project I evolved.

04:58 It's basically from two countries like <redacted>, the USA, but it's really connect people from different disciplines and the field.

OK, yeah.

So currently what I'm doing so turns out is East Asia. That's year the America. So first class there, there are all 50 each other on the really we call disjunction generally.

05:30 HMD, like one of their siblings, distributes to either in <redacted> either here.

OK, yeah.

So we want to know like evolutionary background, how they connect, how they separate, how they how they're dependable evolutionary paths. So we want to do the community phylogeny and all the micro microbiomes and to the soil.

06:02 So all the people who study soil, who study plants, who study ecology also sees. So there's people like us there from at least three or four different universities back in <redacted>, a similar case.

Are there any challenges with working with so many people of different disciplines?

Yeah, it's like we kind of care about same thing, but it's really people have different understanding.

06:35 And sometimes we like we are more focused on the plants. We will we go to go out to the sap. And we also help other people like do the soil sample, but sometimes without specific instructions. We do know from soil what they really care about. We what we should be more careful about the data sampling.

07:01 Yeah, it's like it's like different discipline people, they the way they understand it and also have different cultural backgrounds.

So what do you what did you do in a situation where you weren't sure?

Yeah, that's like it's a really depends on scale like. Well, it's really you've got different people with different backgrounds disagreeing because nobody can solve all problems. So we need collaboration.

07:30 We need really frequent demands of communication.

OK. Yeah.

It's like we have basically we have our meeting every month even, but previously even more frequent because we do this after we set up the whole project. But now even we get most of the data happening. Now, we are kind of doing the analysis, but we do have less time for the meeting.

08:04 **OK. So is that like everybody in the past?**

We try to include everybody, but some people, they come out physically intense so they can Skype. So usually we have the channel teleconference.

Yeah. Are there any challenges with those type of conferences versus meeting in a face to face?

Oh, yeah.

08:29 It's like because people from different places, different universities, they also like besides this project also you want other projects. So some people they will, they cannot like either face to face of coding, so they may need somebody else to study. You won't be in the same group that can do the substitute.

OK, yeah.

08:57 **Um, so can you give me an example of the time when you had a meeting and if there were any difficulties because of doing like a Skype call for the meeting or teleconference?**

So far as I see this, I experienced any difficulties because our API, really the job, they organized the meeting and after that he, he or she, they will give us some rides to like we have Melodist.

09:35 So say to everybody, so what's the highlight to watch significant importances.

Everybody in the group need to know also beforehand, before the meeting starts and meeting, we also of require every group research group represented that they have at least while to have slides to summarize their progress and what they have, what they have done.

10:05 What's going to do.

Yeah, so are there any challenges or benefits to working with people at different institutions?

Yeah, it's like sometimes it's like I, I have a botany background, I do the fallout. So all those trees I cut, it's like you because you've studied so much. You want some of tiny little details. Maybe you because you've seen it every day, you feel it normalized.

10:36 You don't think it's a big deal. Some but different people like I put up because I collaborate with people who study ecology now that are really popular, top hobbies that people use about me as a as a platform and the different family, they have different traits because function and traits, they want to map all the phylogeny to talk about ecology, do some looking ecology analysis.

11:11 So then then we collaborate with us, obviously, like Spline and try to provide them for about an entry Monday to the first thing they need to understand the fall out of the tree. And then we ask some questions like this phylogeny. Then there are some units they will ask you because we see this during like this graduates. Each of these units represents like substitution rate per best player.

11:43 If you this is a for this relationship, we transfer this to the time tree, which will tell you how those molecular substitution rate change counting the time. So because we know this, we are usually ignored because it's like default setting for them, then we will ask you questions. What is the unit?

12:11 Usually they accept to like you need to look for Tyree's minutes or seconds that they like. They can accept that. But we say that is the substitution rate per time or per best pair for those nucleotides. They kind of really surprised. They also yeah, they kind of accept that this is the unit. We don't think so.

So what do you what did you do in that situation?

12:39 It's like we try to use our knowledge to explain it, because that's what this was, the scientific way to integrate. And we cannot do no teaching. It's the way our knowledge of the flyer understand. So basically. So from what we know, alert, and then we tell other people, let them understand their own, the knowledge, it's really beneficial to us too.

13:15 And also they will also learn the same thing. And also we can basically it's like concerts across the reaction of cool reaction. We also can learn from their point of view how they look at how they other understand our policy. It's also inspire us.

13:37 **OK, did you ever noticed differences with regards to work culture and you may be differences in scientific methodology or differences with like bureaucracy or differences with data sharing beliefs.**

You. Yeah, a difference. Yeah.

14:04 Because the now for large scale usually you will generate how a large volume of data and also you will use different people. They have different happy, happy the way they did the right thing. I'll put the format of data. So usually, sometimes you have difficulty because. You different people, like there's 10 people there.

14:30 Could it be like eight people, the same kind of data type of data, but they prepare a different format?

Yes. So their frustration is like first time you get the for you combine everything together.

Yeah.

And yeah, that's as you go forward that you take.

Right.

And follow collaboration. That's a that's a really big challenge.

14:59 You need to like universe all the starters. We have some like biologists and also sometimes the bio informatics. So they on that platform.

Yeah.

It provides a platform. It's like here it's a platform. We should like post CS here. We should like put it up on the website.

Oh yeah.

15:29 We have a like before we the project complete, we have the internal exchange ideas, data, communication or exchange, but we have the internal use platform.

OK, OK, so I was going to ask a little bit of like how, how could you have prevented these difficulties. Wanted to enter with a C not incompatible data but data that's formatted differently.

15:58 But it sounds like you used LSD, use that internal platform with all of your projects or basically now.

Yes, it's also a requirement for a really successful project. Yeah, we kind of you know, we kind of first that we set the standards of this data. Also, we make I think every time the Muslim type of meeting, like a lot of the categories we are talking about, how to make agreements, how might data like Universal some we try to use the same standard.

16:36 Yeah, OK, so I've heard of situations where people are using data sets from previous research or that is maybe more restricted or and then wanting to have difficulty explaining this. I wanted to broadly share their data.

17:01 **Have you have you ever had like experience different like a different difference with someone you're working with you with regard to like how available your output should be to the public?**

Yeah, yeah. It's yeah, it's a good question. It's also I can't I kind of experience that here. Like what we do the sampling here, like United States, we have our sampling sites basically used by our political stations and also me on site.

17:35 So they have really good like almost like your base, though. It's a really detailed records. And also they I know I didn't know how to say that. Basically they have the airplane to do this away. So all the forest, their structure and they are so all those detailed information can you get a sense of here, but you try that because collaboration work is better here.

18:08 And <redacted> is for this kind of data. It's hard to make it to being the data, you know, Paralyzer because you try that we do not have these kinds of really specific all this ecology there that we do not have airplane to make. It's not allowed. So, OK, so yeah, some of the data is definitely going to be you <redacted>, because we do not have the.

18:42 **Yeah.**

Here, it's like you get anywhere, you just put the Google map in detail and show you how to drive to get there. You try that. Yeah, there are some part of the tunnel like it's public. And so anybody can access to some part. Yeah, there's various reasons.

OK. Is there any difference in publishing results in <redacted> versus publishing results here with regards to you?

19:12 Like what?

Yeah, like publishing your data set.

Yeah, absolutely. I like it a lot. You publish like there is a chance you tell the public of people like access to these results, but it really depends if you're like your supporting scientists are really sensitive to the government or military, maybe even you even you know, it's really significant.

19:43 The hotspots there, you need to get a sampling, but it's really hard. Yeah, that's easier here. There's a lot of chance because previously our sampling design, we have Y plus you have <redacted>, there is

<redacted> there and also have a <redacted> in there. But it's also <redacted>. There are some confidential. So <redacted>.

20:13 Yeah, <redacted>. We have to like, make <redacted>. Stepping aside so we can go there, that's worth our original design philosophy, but we can't get all those paperworks. So, yeah, as you can see here at the <redacted>.

20:36 **OK, so when you're working with a large group, do you ever do you ever experience a time where you felt like one of your co-workers wasn't prioritizing your project or.**

Oh, yeah, it's really hard to know. It's really very like your collaborative collaborator and the person to person.

21:07 It's like I can't directly tell how they put our collaboration project into the priority. But usually you can feel from the email come in first is sometimes like really positively promoting that gets you feedback really soon. But your son sometimes is like, you know, after a couple of weeks, maybe months, then they get to first of all.

21:35 So, yeah, it depends.

OK, so what do you do in those situations?

Yeah, it's like I tried to if, you know, tried to first I do what I can do on my side and try to make <redacted> convenient and easier for my collaborators.

22:02 Also, if there's no chance and time slot, maybe I remind them frequently. Yeah but yeah. But you because it's collaborative in her. How are you anyway.

So yeah. Is there a difference between when you have these situations with someone who works here versus with someone who's like at a different institution.

22:31 I mean usually people because we have collaborators with the same community, usually people have a good. Let's hear it, because there is a physically on location convenience, so if the temperatures here is like, OK.

22:54 We all meet face to face at any time, but for other locations, like really for us, it's really depends on the chance and the priority of a single event, like I need to meet this person. I need to talk. So this meeting being able to meet face to face help with resolving that tension from.

23:22 So for I. Don't see any to resolve the problem or get the job done. I don't think there is a really big difference, but I think, you know, if you face a face to face, it's really hard to say.

23:47 I really can personally push this button, like for either of you that they can be held here. They can also lie. So we can do nothing about that. So if you like, I will ask you for your help. Are you? I know you are busy, but I can't wait to you like outside your office door as long as you finish your work.

24:14 You are doing so because you realize though that so you will you know, you are busy. You will squeeze time for me. But for your conference, <redacted>, you cannot do that. You cannot force people squeeze the time slot because when he's here he or she ready for that, for the communication, the rights of people. Maybe not that they do not have the proper channels.

24:40 **OK, is there anything that you could think of that would help in that situation if you could do anything in the world or have any kind of technology like what we can do to help with that?**

I don't know, actually, I really depends on people's issues have in the past, and they really want to get this, even if they miss the meeting based on the chance they will come back to make up for you later.

25:11 **Yeah, yeah.**

Sometimes it's like this is scientific research sometimes to really relate to people's personality.

OK, so when this is going to take like way back when you having these large meetings with like everybody does everybody speak.

Yeah, everybody try.

25:41 It's the most time everybody tried to like express their either understand the ideas like true to communicate or push this little positive way. But sometimes it's like if you have idea before you say to somebody else already expressed. So maybe just the nod.

Yeah. Yeah. OK.

26:09 **And does that translate well when it comes to like the people who are on Skype versus the people that you're on be first of all, because you.**

Yeah, because we have you heard the ways that people need to say anything, but usually because you cannot see people's emotions. But for the you know, if it's really important because after all summary's us, we have shared screen.

26:42 So you can see people summary there are progress results.

Yeah.

So as you can see, significant, important me missing because we have shared screen. OK, and so when working on large projects, I guess this could apply to smaller projects as well. But I found so far it's a large project issue.

Have you ever experienced having a collaborator kind of just like quietly drop out of the collaboration or?

27:21 Yeah, I think. Yeah, it's. Well, I have to really have that type of situation, but I feel like if it's a like one life cycle for one project, there are some people they have like their enthusiasm. It's a real vary from time to time. There are some time periods like this.

27:47 You say he's just quiet and then something like off the line, but that we all come back some certain stage and then we all get even more exciting. It's it really depends on how they care about. All different stages of the result, all the progress that's interesting.

Can you tell me in more detail about a time where that happened?

28:17 I think, OK, how my expression is like that gets more exciting on the first stage space. This is <redacted>. So, yeah, the first mistakes, they get excited, maybe they move, show up like several hours of sapping stage, then despair and the later another.

28:51 When we talk about the sequence, they had to do the analysis that will show up and. Yeah. <redacted>, previously, the project came off its. Joining me in the very first thing, I do not have any project how we really compete, right?

Yeah, OK.

29:20 I ask because maybe my viewers are very interested in the specifics because people in my field don't have the opportunity to learn about this much. So they're there after my last paper. My viewers are very curious as to like I think the best people in the middle part, people lost the interest. We care about how to start because before I start, everybody's really excited and also excited about the results in the middle.

29:54 Most people will lose their attention for while.

All right. So, OK, so are there any benefits to working in those in really large groups?

Yes, there is a lot of benefits like professionality.

30:20 You can learn like you can get more information about other fields, other disciplines. Also, from the reaction or feedback, you can get more part of you of your own research subjects and the way you understanding what you're supposed to know about, you know, and also, um, it's also like kind of force you to expend your skills, ability to, like, embed the inclusive more knowledge of those.

31:07 **Yeah. OK. So are there disadvantages to working in large groups?**

Oh yeah. I think it's like a certain age. It's like advantage and disadvantage. Disadvantage is like because it's like it's a big project is a large scale. It's required of people you put.

31:34 So some people are like really fast, some slow. So you have to wait because it's like you he to work stuff. So you have to make like everybody on the same page.

OK.

Uh, yeah. It's like but it's like it is really neat, all the pieces together and it's complete that you can like. We can't go without this type sometimes.

32:03 No, he said it's not going to happen, you have to wait. I was like, yeah, getting covering all of my topics.

32:28 It's a little tricky with this style of interview because I'm not just like going down a list and asking you questions. I have a list of questions.

So I curiosity, how many collaborators are on the project that you're currently collaborators?

Well. I can give you a really rough number.

32:59 Yeah, it's like. From here. And trying to do a piece like. Ten different research groups from athletes like. At least six or eight different institutional colleges.

33:22 Yeah, that's it's fight here, it's like Florida or three and the north country in <redacted>.

Yeah, yeah, yeah.

Different places. Yeah, it's really I mean, it's a project. It's also a really significant pharmacy that our universities, our community.

33:58 So it's really cool that they see international collaboration and people can like <redacted> people, those collaborators, different people can come here, we can go to those sites, do the same thing together. They also make scientists can go to <redacted> and see, yeah, see, religious sites do like cool.

34:28 Crosshatching could work together. It's really. I mean, it's really beneficial for both sides for either understanding, like do a scientific scientist community and also it's like can be a really good example for all the international collaborations, because people will have to have language difficulties.

35:02 Have, you know, different countries have different restrictions.

Yeah.

So it will be a really good example for people to use that for reference, how to overcome this difficult to accomplish.

OK. Wow. That's really great. So and then just out of curiosity, in in this project, what is your what is your role?

35:32 Yeah, that's a good question. That's the most important part. I stay here because I previously I the opportunity for my project. I have connection with this lab. I need to speak up. And then they also train me and I will start also.

35:52 So what I learned on the feedback from Chinese people and it's like I'm a bridge, I try to get people to avoid any unnecessary misunderstanding to like a really smooth the way reduce those time less time.

Yeah.

So we have a mutual understanding for those protocols, how we support you.

36:22 How do we prepare all those. Could be an example of these kind of misunderstandings or types of time was wasted. Yeah, it's like for because as far as I understand well, I do the phylogeny. I realized, like, oh, my, here are more <redacted> scientists, like you're far ahead. What are these people doing so fast?

36:53 Like, we use some like new technology, new secrets platform. We start from here so people will train. Oh, get the information earlier here and we'll. More mature.

OK, yeah, yeah.

So I get these, so be because back you try that side, just those people, they do have not actually formalities yet.

37:29 So what I can usually they say the email back to me is like, do not need to speak any English. But you can we can also call your supervisor here, but sometimes they can just directly contact me to do some consultation.

OK, think that's really cool. So what technology do you typically use for collaborating with your researchers?

38:01 What, like communication. Yeah, and this is a really interesting by here, like the United States, we help Google set up Gmail, Google Drive. We can say that all those sherrell that they had information, but Google is like blocked in <redacted>. So that's a difficulty. But I try the <redacted> people have a <redacted> Google, so I know how to use that.

38:33 I also like how sometimes I copied the same day that data from Google Drive to the <redacted> people with access to the Internet resources so they can we can share. And that's the way also we have some other collaborator scientists in our lab that he also helped set.

39:00 As I mentioned before, we set up a website and we have that phone for you to share exchange.

OK, so can you tell me a little bit more about that for the platform?

Yeah, we have a website. But yeah, he said, because the project is not finished yet and not ready to go to.

39:30 OK, yeah, so open to outside, but we do have one. So the for the people who will be doing the research of the cat. <redacted>. <redacted>. We also put some updates on the.

39:58 Yeah, so the people we eat, they eat specific cuts to any of these. OK, yeah, it's like these are words like he's nicer to them, what I'm saying, but the lyrics, a really cool project.

OK, so what does this do for you that like other technology?

Oh, it's like this is like really specific.

40:26 It's like we designed meet our needs. So it's like really what that says, like custom design.

Yeah.

It's like living is a full of internal. Yeah. So what is it, do we just share those progress updates and to share some data.

40:50 And also like we can set the standards for the different data, for the data type so everybody can access and everybody can see all this data format required. We can prepare the way.

OK, cool. So is there anything that this software doesn't do that you would like it to? Sorry, is there anything that this platform doesn't do that you need it t?

41:19 Oh, I think it's so far because it's run by ourselves. So if there's any new requirements or new needs, we can you can say that also. It's a really good thing for the conference meeting. So, yeah, that's like a monthly meeting we have.

41:49 **OK, OK, great. So, um, and do you use this tool is internal to use it with all of your collaborators or just like the people who are in <redacted>? Is this just for this specific project?**

OK. Yeah. Yeah. So, I mean, it's ah, it's so firm for my experiences. There is multiple ways because different pieces vary from project to project.

42:17 Some people prefer, you know, like a meeting on Google giant Dropbox for this project. We have our.

OK, have you used similar software for other?

I heard other people, they feel like it's really depends on your collaboration category.

42:44 Some people like to do some screen coding. They will use GitHub. Yeah, for the screening program. The also recently called CELAC. Yeah. So, yeah. So I was unpopular. If you ever use slack. Just start OK? Yeah, and not have much experience with. And then what about do you write scripts for ya.

Yeah. OK, so do you ever use get out of or.

43:15 Yeah. Good luck.

All right. So if you could create a hypothetical future technology that would make collaborating on your and your science projects easier, what would it do so far?

That's not my imagination. I think hobbits are really I want you know, future athletes have this picture that I borrowed from GitHub.

43:45 It's like you can set up a framework for all the collaboration for the project, but not necessarily as well as some of the time going. And the product making progress, not the next three to. Or destroy the old version so you can work, you can have new threats and you have merged, but you can't go back any time, you can see what people think back what was Lobi at that time.

44:22 Yeah, not that time scale. If we need anything from the past, then we also can't grab them, but we still can keep the updated resources going on.

Yeah, I think that's a really nice story.

Intel's GitHub and also people can be anywhere where the word can be a need threat of the computer or whatever.

All right.

44:50 Work on the same piece, but that's really great. Because like traditional people have multiple versions, you can easily, like, lost yourself on all these different version of on.

So, yeah, what do you use for many people who use logic? I know I said you could read between the old version and the new technology. Like people are missing people, you use them are marked down.

45:21 So you can also write you can set all those parameters before you can have a really nice looking for yourself, the paper. And there is a lot of online resources already automatically prepared. A style meeting, different journal.

OK. Yeah, but what I would really like to see is are you really my paper might easily be for your future will you.

45:55 I ask this with logic. You don't have to have you can have each sentence in a different line. And then I, I've heard of people using and get and first for source control on papers where you can cut a line by line basis. But that's like.

Yeah, yeah.

46:16 It's, I mean for this case there's also have some difficulties because if you, you already know, nice stage, you feel like really small strassberg but you need to communicate with your colleagues, you causers all maybe your supervisors, your supervisor, you're old fashioned. So, so if like they weren't they have a lot to like a train track and you check.

46:47 **Yeah, yeah, yeah.**

Structure. So if they make the older person in the work that you are the new format, so you really don't see differences and they cannot use any worse, they'll come back together. So yeah, it's perfect. Everything you do is automatic with Screamfest. All the best. But will you get your supervisor's feedback. You have to MANUELITA. Yeah, that's the frustration.

Yeah.

47:16 **Unfortunately I don't know the answer to that question that that problem. So I'm just wrapping up here. Do you have any questions for me or.**

Oh no. OK, that's fine.