

The Taproot Podcast

Season 6, episode 5

Guest: Yunde Zhao

Hosted by Liz Haswell and Ivan Baxter

Transcribed by Jo Stormer

[Upbeat theme music]

0:24 Ivan Hello, everyone. Welcome back to the Taproot Podcast. I'm Ivan Baxter.

0:29 Liz And I'm Liz Haswell. Today we talk about equity in reviewing, editing and publishing, and discuss how the pandemic affected these processes.

0:40 Ivan Just a note that we break into this conversation in the middle to discuss the recent controversy relevant to this discussion. And now, onto the episode.

[Theme music]

1:15 Our guest today is Yunde Zhao, a professor of Cell and Developmental Biology at the University of California San Diego. Yunde got his bachelor's in biochemistry from the East China University of Science and Technology, received his PhD in biochemistry from the University of Michigan, and his postdoctoral training in plant genetics at the Salk Institute - where he was a Howard Hughes Medical Institute fellow of the Life Sciences Research Foundation. This January, Yunde started his appointment as the editor-in-chief of *Plant Physiology*, one of the oldest plant journals, and we are really interested to talk to him about where he sees the world of scientific publishing going. Yunde, welcome to the Taproot.

1:57 Yunde Thank you. Thank you, Ivan. Thanks for inviting me here. Great to be here.

2:01 Liz Our paper today is titled "A Reporter for Noninvasively Monitoring Gene Expression and Plant Transformation". The first author is Yubing He, and it was published in *Horticultural Research*. Yunde, you wanna give us a short summary of this paper?

2:17 Yunde Sure. This paper is about a new genetic reporter. As you all know, reporters such as green fluorescent protein reporter have been very important for plant biology research, but also traditional reporters cannot be used in the field or require special equipment, chemical treatment, or sacrifice the plant tissue. So we want to develop something very easy to use that don't require special treatment, don't require special equipment.

We looked into plant products. The one this paper described, we want to use the biosynthesis pathway for betalain - that's the red color you see in beets or dragon fruits. This is synthesized from tyrosine; every cell has tyrosine. Potentially, you don't have to give a substrate to do the treatment. The biosynthesis part is very simple - just three enzymes. We chemically synthesize these three genes, putting the in the same plasmid as one simple open-reading frame. When we put this in plants, they can produce these three enzymes, then you have a color. This makes it very easy to use, especially useful for big crops (for example, fruit trees) or under sterile conditions like tissue culture for plant transformation. All the traditional markers or reporters when used in tissue culture can cause contamination of things. This one, because you don't need any special equipment; you just see it. So it has been widely used by the plant biology community.

4:04 Liz Yeah, that seems like a useful addition to the repertoire. Even if you had a selectable marker, even selectable markers, they don't always work great, right? Kanamycin is always such a bummer to get the right concentration and make sure that your plants . . . if you have like sickly plants, then you can't tell if they're sick because they're only partially expressing the selectable marker. Having something that's not a selection seems like a great way to go.

4:32 Yunde That's a great point, actually. You mentioned the antibiotic resistance, right? Different plants actually have different ways of dealing with antibiotics. For example, rice transformation: you cannot use kanamycin at all; you have to use hygromycin. You can use both in Arabidopsis, but a lot of plant transformation, people run into difficulties because there's no proper selection marker. They don't have a good antibiotic resistant gene for that. This way allows you to not select them. You can see it, right? If you have

transformation, you can see the color. You don't put a selection pressure over there, much easier to use.

- 5:17 Ivan Can you use the levels of betaine in a tissue as a readout of how strong a promoter is? If you were doing comparative promoter studies, just to read it out with a colorimeter of some sort?
- 5:32 Yunde Yes, yes. We can take color. You can easily measure the concentration, use a spectrophotometer. But right now, we haven't used this to measure promoter activities because we don't know how stable these compounds are in the plant cells. That may actually change depending on the plant species. I think more importantly, you can use this as a qualitative way. Okay. Your plant transformation, you have a change it in [unclear], or you can see the color over there. More like a qualitative way.
- 6:12 Ivan Yunde, I love this paper. You can already see people are using it all over the place. I've heard it from multiple different collaborators. "I put *RUBY* in. It's great." This really seems like a paper that should be in *Plant Physiology*, for example.
- 6:27 Yunde [Laughs]
- 6:28 Ivan But was there something about *Horticultural Research* that you really wanted to be in that journal or -
- 6:34 Yunde This paper really exemplifies the challenges for authors and also the problems in current publishing business, right? We sent the paper to high profile journals and then they all come back without reviewing it, "Okay, this is nothing really interesting." They think, "We have GFP, we have GUS, no one is going to really use this." I think it's a problem in the publishing business because there are a lot of editors in those commercial journals (they have in-house professional editors, they probably have not done bench work for a long time. On the paper, you just look at that, "Okay, we have GUS, we have that . . . just sufficient. Why you need this?" But for people actually doing the work, they immediately recognize the significance, because they know when you do the transformation in tissue culture, look under the microscope for GFP - not easy to do. And this one, immediately you can see the

advantages. After ten days, you see your transformation worked or not, because you see the color. I'm not surprised these journals reject our paper based on novelty, because they see there are other approaches that can do it.

So why published in *Horticulture*, for two reasons. One is I think *Horticulture* plants, a lot of transformation are based on tissue culture. I feel like people in the field will use our reporter. That turns out to be true. The other thing is that the editor in chief over there, tried to ask me to submit papers to them.

8:33 Liz All this time you're sending it to these journals, did you also put it in a preprint server, like *bioRxiv* or something?

8:41 Yunde Yeah, we didn't put it on *bioRxiv* because I consulted with our tech transfer office. If you want to apply for a patent, they actually discourage to put in *bioRxiv*. I think this is something each university is probably different, but my university advised me not put it in *bioRxiv* if you want to apply for a patent.

9:05 Liz That's weird.

9:06 Ivan Interesting. I've had experience, they wanted to file before we put it on *bioRxiv*. But once we had filed, they didn't care whether it was on *bioRxiv* or submitted to a journal. That didn't matter to them.

9:19 Yunde Mm-hmm. I think that's probably different university, the tech office people have different kind of understanding. So in the hindsight, I think probably should have put out there anyway so people can use it earlier, have more impact.

So far the paper has been published for less than two years. It has been accessed/downloaded 26,000 times and has been cited about twenty times based on the database and then our own tracking. More than seven hundred labs are using that, you'll probably see many pictures in Twitter.

9:58 Liz Yeah, absolutely.

10:00 Yunde Their favorite plan. And then right now, RUBY actually becomes a verb. People will say, "Let's RUBY this plan." [laughs]

10:07 Liz Let's, let's RUBY it. Yeah. I guess that's, that's when, you've really made it is when your technique becomes a verb [laugh].

10:13 Yunde Mm-hmm.

10:14 Ivan That's amazing. I mean, that's impact, right?

10:17 Yunde Yes, that's impact.

10:18 Liz That's the real measure, right, which is great. I mean, that's the nice thing about having a resource that's a plasmid, Addgene really allows you to say, "No, people are using this.

10:31 Yunde Yeah.

10:31 Ivan For some of our software packages we will track GitHub downloads and things like that to see who's using it. Those are the real, "Is it being used as a technique, as an algorithm, as an approach?" You can get some sense of the impact that way and not just look at citation.

Yunde, you are sort of in an unique position now to talk about what editors and journalists could do, cuz you are now the editor-in-chief of *Plant Physiology* and we should mention that I am founding editor-in-chief of *Plant Direct*, which was another journal in the ASPB family. Our esteemed colleague Liz just stepped down as a senior editor at *Plant Cell*, another ASPB journal. Liz is also a deputy editor at *Science Advances* in the plant section.

11:20 You have this sort of unique position and you're now really in an influential position in terms of where science publishing is going as the editor-in-chief of *Plant Phys*. One of the reasons we wanted to have you on the podcast was that the last two, three years have been a really challenging, exciting, different time for science in general and society at large. So we wanted to get - sort of as you're sort of starting your role as editor-in-chief - get a sense from you of where you see science publishing is going and what you think the lessons we've learned over the last few years have been. When the pandemic began, we had this group email chain among all the plant editors and we ended up putting up the same announcement on everybody's website

saying, "We understand that this is a very trying time. If you need more time as a reviewer, if you need more time as an author, just ask; it's gonna be fine." We don't want people to be so stressed out about deadlines and things while they're trying to manage this whole new existence in the pandemic. And I think those announcements are still on everyone's banners -

12:37 Liz Yeah, you still see

12:38 Ivan - because you know, the pandemic's not over. Is there any reason to take that sentiment or that policy down?

12:47 Yunde We should always give people more time if they ask, and not just because pandemic.

12:55 Yunde Why a deadline anyway? Like what's the point of the deadline? We do it at *Science Advances* too, but why six weeks for a revision? Why not turn it in when you're done?

13:06 Ivan I think the answer unfortunately is because people still look at metrics for how long papers take, and the companies behind these journals think that people care about that. They always want to have the statistics that it doesn't take that long to . . .

13:27 Liz "Time to publication."

13:29 Yunde This is a *historic* thing. Like nowadays, you don't . . . when the paper accepted, when your proof comes in, you publish. Not like in the old days you have this hard schedule, this issue this month, this day, you know? I think we should change that.

13:47 Ivan I feel like people in general, the movement has been to any time an author asks for an extension, it gets granted. I think, Yunde, you're right, it's probably that that's anachronism and we say that and so if some people take it seriously and, and other people know that it's not true.

14:07 Liz This focus on time from submission to publication . . . shouldn't preprint servers like subliminate the concern about that anyway? Like if your info is out there and you can put it on your CV and you can put it in your grant proposal

and other people can cite it, then if it takes a long time for it to come out in the journal, it doesn't matter as much as it used to. And anyway, if we think authors are desperate to get their papers published quickly so they're picking journals where papers are published quickly, then won't they be turning their revisions around as quickly as they can? If that's the case, we don't really need a policy in place to reinforce that. I don't know.

14:54 Ivan But I think the other side of it is we say the same thing about reviewers, and I know authors do want their papers to be reviewed quickly. We have this deadline for reviewers, and I know people will always ask, "Why is X journal at fifteen days and Y journal's at twenty-one days, and does anybody pay attention to those deadlines anyway? I think that's really where the journal has more control in terms of what it's asking of reviewers and how much leniency it gives to reviewers in terms of allowing them to go on or trying to move on without a reviewer.

15:37 Yunde At *Plant Phys*, they missed that deadline, then we sent email reminders to them. And if they still don't respond, then we will just move on.

15:48 Ivan One of the other things that happened during the last three years was we had the murder of George Floyd and sort of a lot of discussion and reflection in societies about how diverse our scientists, our editors, our reviewers, our authors are. Are we doing enough to be inclusive in our science? You applied to be editor-in-chief as this was going on. Are there things that you are looking to do at *Plant Phys* in response to all of those discussions?

16:37 Yunde I think diversity is very important for the journal. I work very closely with the ASPB diversity committee and Women In Plant Science committee. I'll ask them if we have one opening in particular area that we have, like an opening for plant pathogen interactions. I work with the committees, "Can you give me some names? And I can contact those names, the people, interview them." I think it's important to reach a very diverse editorial board. We are working really hard on that - diversity in terms of like race and gender. We want to achieve fifty-fifty in terms of gender equality.

- 17:30 Liz How close are you to gender parity, and where are you on diversity of other types?
- 17:38 Yunde I have to check the numbers, about forty percent women now. In terms other type of diversity, we are still a long way to go.
- 17:54 Liz We all have a long way.
- 17:56 Yunde The other part of diversity is really to want to make this board as international as possible. Before I took over the EIC job, our board is heavily scientists from Europe and the USA. We didn't have any editors from South America. We didn't have any editors from India. This all changed. I think it's important to have diversity on the board. That makes the journal more attractive and also attract more submissions, and improve the qualities and then generate new ideas. That's one of the priorities I want to do, to restructure editor board. We have done quite a bit, but still a lot need to be done.
- 18:47 Liz Are you thinking about career stage diversity too? That's kind of a tough one because you want young people's perspectives, but you don't want young people, pre-tenure folks getting bogged down with too much responsibility or sort of the challenge of turning down their colleagues' papers. But they're often more on top of the latest technologies than old farts like us, and they often have different viewpoints about what's most important. So, I don't know.
- 19:24 Yunde I think it's important to have editors at different stages of career. We usually don't consider people pre-tenure. We have the list of people going to be tenured next year. Then I contact them once they got tenured.
- 19:44 Liz Okay, we're breaking into the conversation with a quick section that we recorded later. Shortly after we recorded this interview, *Plant Physiology* announced that it was starting a new section focused on synthetic biology. They listed five new editors that would be handling this new initiative, and they were all men. I was startled for a couple of reasons, especially after our conversation with Yunde about his ambitions for a more diverse set of editors, but also because there are so many amazing women in this subfield.

20:20 Ivan So we emailed Yunde to ask, “Can you talk about the disconnect between your stated goals for increasing the diversity of your editorial board and explain what you think went wrong in the recent case where five white men were added to this new section?” He replied, “This is an oversight on my part. There are several reasons behind the oversight, and we can find another occasion to have a more in depth discussion about the reasons. What is more important is that we have addressed this issue. I have recruited Keiko Torii and Lily Cheung, two outstanding female scientists, to the SynBio initiative. Moreover, we are establishing mechanisms that ensure such oversights do not occur in the future. The editorial board of *Plant Physiology* is certainly more diverse now than last year.”

Liz, what did you think about that response?

21:09 Liz Well I am glad to hear that *Plant Physiology* took some action. I'm sad that we weren't able to discuss specifically how this happened and the kinds of mechanisms that are now in place to prevent it, partly because I just wanna know what they did, and also because I think transparency here is really key.

I do get kind of how it happened. There are so many times when we really rely on our immediate network of friends and colleagues to decide who to invite for a talk, to present at a meeting, or to review a paper. But we should all know by now that in order to really promote inclusion, we have to stop and think; we can't do those automatic responses anymore. We need to reach outside of our networks in a deliberate and intentional way, and I will just put in a little plug here for a database called DiversifyPlantSci. We'll be sure to link this in the show notes. It's a database of diverse plant scientists that can be searched for career stage or topic area, and can be used to find these diverse people.

22:17 Ivan I agree. Unfortunately, I think the simplest explanation is that it clearly wasn't a priority. Hopefully it will be going forward.

And now back to our conversation with Yunde.

Yunde, let's talk a little bit about “impact” and the “impact factor”

22:33 When I was editor-in-chief of *Plant Direct*, at a lot of meetings there would be an editor's table where we would hang out and tell people, "Hey, come talk to us." And one of the things that Mike would say is that when people said, "What kind of papers do you want to get?" and he would say, "Just send us your best science, the high impact science." Some of that is not necessarily directly tied to "We want *Plant Phys* to have a higher impact factor," but they're certainly related. I guess one question would be: how would you define where you want the impact of *Plant Physiology* to be, whether by measuring its impact factor or some other? What's the criteria that you want your editors to be thinking about when they're making decisions?

23:27 Yunde I think we all don't like impact factor, but it is going to stay and it is going to impact journals, so we have to pay attention to that. But we are not driven by impact factor. I think what we want to do is really publish good papers and then let people know we have published good papers. There are few things we need to do, to promote the journal. I will go to conference, talk to people, tell people the scope of *Plant Physiology*, because a lot of times people just look at the name of *Plant Physiology* just only for physiology. No, *Plant Physiology* is a comprehensive journal. We published ALL the research related to plant biology, not just plant physiology. We need to go out, tell people our [unclear], and when they know the work, they [unclear], they impact will go up. Then it really . . . recruit content. Previous years, we don't have to because *Plant Phys* is there, *Plant Cell* is there, but now we have more competition. We want to let people know what we are doing, what we want, what type of papers we want. Once we've done that, then naturally the impact factor will improve or at least stay respected

24:56 Ivan But I mean, just taking like the RUBY paper, right? It would be hard pressed, anyone was gonna say, "This isn't a good paper." It was obviously a good paper, but they wanted novelty or something beyond "good paper" or "your best"; I don't know if you consider this your best paper. I don't know. You've got a lot of papers that I really love. There is a difference between saying this is a good paper -

25:22 Yunde Mm-hmm.

- 25:23 Ivan - and saying, "This is a high impact, this is a novel paper." Those are two different things. They're both judgment calls to some extent, but they're they are different. Do you feel like that's different, that you're actually changing something at *Plant Physiology*?
- 25:39 Yunde I think we want to do two things, okay? If we want to - let's say - check the paper based on novelty, so we want to have at least two editors look at the paper and the two editors have to agree on that. We will not just say, "This paper looks like not novel," and then we reject that; we have to have a consultation. The other thing we want to do is actually look the paper - the objective - and then where they end up in the end. Let's say if we reject the paper and turns out that paper is very impactful, I want to go back, look at what went wrong, and why we didn't publish that.
- 26:24 Liz We definitely do that at *Science Advances*, every six months we take a look at where all the papers that we rejected went and try to figure out if we're hitting the spot that we're hoping to hit. Usually the mistakes are mine.
- [Laughter]
- 26:42 Ivan Liz, can we unpack that a little bit? So when you say the mistake, is it you decided that it wasn't novel enough and that's the problem and you're just not very good at novelty?
- 26:55 Liz We don't use the word *novelty*. We're looking for things that are changing, gonna change the field, that are breakthroughs. I think that's the word we're looking for. It's science-adjacent breakthroughs, so when I say mistake I mean something that I took a look at and was like, "This doesn't seem like a big deal to me," and then haven't even sent it on to my associate editors who are actually knowledgeable and who (if I did send it on) would probably have reviewed it. I think those have been the biggest, so most of the mistakes have been mine in the sense that those papers then went on to other general interest journals where they got a lot of citations. We've had a couple of things where I clearly missed the mark in not accepting and in not sending them out for review, and then there's of course always the set that we review and then we reject after review that then end up somewhere else. It's always

hard to know if that's because they reworked the paper based on our reviews but then went somewhere else - which in my mind that would be success, right? If the paper was made better via round of reviews and if it ends up in our hands or somebody else's hands, whatever is fine with me. It's really the ones where I didn't give us a chance to consider them that I think were mistakes, But oh man, I trawl through that data a lot, see where everything's going.

[Laughter]

28:36 Yunde I think in journal, now we put so much emphasis on the novelty, but the novelty or application should be really judged by the publication, right? It's published and then people use it and people recognize it; that's novelty, that's impact. But now we put that at the beginning doing that.

Liz It's hard.

Yunde In a way we rewind it or slow down the progress of science, right?

29:12 Liz That's why Ivan's journal is really the way we should all be going, to some degree, and maybe we are moving towards a scientific society where really post-publication peer review is the norm.

29:33 Yunde I think there's a strong sentiment in the scientific community. They want to tear this down. They want to tear down the current system there. There are problems in current system, but I think at least in the near future, that's still going to be like that. But at *Plant Physiology*, we want to make sure we don't reject paper lightly.

30:01 Ivan When I was, you know, a sixth-, seventh-, and eighth-year grad student and I was reading *Plant Phys*, it seemed like *Plant Phys* was where you sent your solid, your good work. There has definitely been a change over the last ten years - I would say - where there was an attempt to say, "No, we wanna move *Plant Phys* a little higher." I do feel like there's room for a . . . so *Plant Direct* obviously is a sound science journal. We're not saying necessarily this is good work, we're just saying it is solid. They did the experiments right and we're not gonna put too much stress on, you know, you can read, you

understand what they did, but we're not gonna try and say "Good, better, best, novel, breakthrough." We're not gonna make those judgements. Those are hard, and we don't want to deal with it. And I think as soon as you start making judgments, you start making mistakes. I'm sure we made mistakes at *Plant Direct*, too.

There's . . . the idea of where do you send your good work? It's not clear to me where that is. Yunde, do you have a feeling for, what you would say to someone who's like, "This is good work. I've done good work here, I've got a good set of experiments. Should I send it to you at *Plant Phys*?"

31:23 Yunde Yes! If you have done good work, sure, send it to us. I think we are not going to use in terms of like citation metrics during publishing. We are not going to say, "Because this paper is going to be cited a lot or not cited a lot, then we make a decision." No, we based on the quality of the paper. Some fields make more citation. For example, technology, you get more citations compared to - let's say - eco physiology, you make less citation. But those papers are equally important. We will published both of them. We are not gonna make a judgment, make a decision based on citation. No. All these things keep in mind that this is society journal. We want to serve the members of the society. If you have found good work, send to us.

32:18 Liz I think Ivan's question is an interesting one though, because I've also felt like, "What about just the paper that's a solid paper, but it's good observations." It's a graduate student's work, but like you don't have the molecular mechanism or you discovered something that turns out somebody already identified the factor, like whatever. There's a technical barrier that prevents you from taking the next step. It sometimes feels like there's no . . . where do you send that?

32:51 Ivan You can send it to *Plant Direct*. But people want a recognition that their work is more than solid. And partially because we still value some journals, there are clear hierarchy that people value when they look at a postdoc applicant or a faculty applicant, or a company's looking for someone for a job. People still use the journal brand as a mark of quality. Now, getting your paper cited twenty times in the first two years -

- 33:31 Liz That's a sign of paper quality.
- 33:32 Ivan Dr. He at this point can just say, "Look, everyone's using it. You wanna, you wanna hire me for anything," but when the paper came out in 2020, that's harder to say, right? Over time these things matter, but people need to get a job now or they need to move up a stage now, or they have a fellowship proposal now. So we want some sort of assessment of the person's quality, and we're still using the journal brand to do that, which puts a lot of power in the editors' hands.
- 34:02 Yunde Yes. That's true. I don't see that change in the next few years because we kind of like become lazy. We use the journal name kind of proxy value of people's achievements
- 34:18 Liz For sure.
- 34:19 Ivan And, and I think we're being lazy and we're doing all these things in the U.S., but in China it's very explicit. If you want a job at X, you need a paper in a journal with impact factor Y. Even in England and Australia, I think, there is a lower floor for impact factor, below which you can't count your publication as being in certain assessments. We talk about these things as if it's just a cultural thing, but in some places it's decidedly not; it's actually institutional and structural and I don't know . . . that means it's really hard to fight as a global scientific society because the incentives are very clear for someone in China. I can't argue with a postdoc says, "I want to get a job back in China, so I need to get a paper in this."
- 35:11 Liz EMBO or above
- 35:12 Ivan What do you say to a postdoc who wants to go back to China and their project is going well, but not great?
- 35:21 Yunde Well I'll just tell you we try our best to publish in journals as high impact factors as possible to help your career, but you cannot guarantee that. In terms of going back to *Plant Physiology*, while we want to see the impact factor, we don't have a target level. We don't say we are going to reach ten or eleven, but if we do our job - publish quality papers - and the other thing

we do is also promote, let people know the papers we publish. We have news articles, highlight the papers in *Plant Physiology*. We have our assistant features editor to help disseminate the discoveries. When people know your work, then they will cite. That's naturally the citation will go up; hopefully the impact factor will go up.

I would like to mention one more thing about *Plant Physiology*. This is a society journal, and I think other commercial publishers don't have the function in terms of training next generations of scientists, editors, and viewers. I feel like all society journals like *Plant Phys*, *Plant Cell* have that function. We want to really emphasize that part. We want to train our next generation editors. I think it is important for the journal to really serve the plant biology community, serve the society by publishing good papers, by training our next generation scientists and editors.

37 Liz Something else that happened during the pandemic was a real loss of authorships by women, especially in that first year. There's been a number of papers out (and I can look them up and we'll put them in the show notes) showing that during 2020-2021, papers published with a final author being male actually increased in proportion to those with the corresponding author being female.

37:33 Yunde Wow.

37:33 Liz It's totally been shown and I think that those kinds of analyses are really hard to do though, because it's typically done by looking at a name and guessing at gender based on a name, which is challenging and . . .

Ivan Problematic.

Liz . . . problematic, for sure. But I think it is true that people who had small children spend a year surviving and not necessarily thriving.

Ivan Or two or three.

Liz Or two or three, absolutely, whereas many of us with older children spent the year maybe even thriving. So I wonder how you see that as an editor. I guess you really weren't here spanning that whole time necessarily, but do

you have a sense that that also happened at *Plant Phys*? And if so, what do you know about that?

38:33 Yunde I don't know about that. That's actually the first time I heard about actually we have some problems. Would be good to, if you have . . .

Liz I'll take it up.

Yunde I have to look at that. I think in the journal, I think the diversity, equality, I think we should always try our best to promote that. I mentioned that we want to achieve gender equality [unclear]. We are on the way there.

[Laughs]

39:06 Ivan It's hard because this is a societal and institutional problem that have failed to support the parents of young children through this process, and because domestic work tends to fall predominantly upon women, that hit women much harder during the pandemic.

39:34 Yunde That's true, that's true.

39:37 Ivan You know, the journals are sort of a gatekeeper so people look to our journals to try and solve some of these problems, but the journals have somewhat limited abilities because you can only deal with the submissions you get. But I do think, it doesn't excuse us from having a responsibility to try and address. Going forward, we need to continue to keep in mind that this was an inequitable period. I think from the society view, probably we should be thinking carefully about our awards -

Liz For sure.

Ivan - and our expectations for awards -

40:15 Yunde Mm-hmm, mm-hmm.

40:17 Ivan - going forward, because you to those award committees, people look into CV, and I think we probably need to be having . . . *we know* we need to be having mental adjustments to deal with our unconscious bias. But even, say,

"Oh, we're gonna blind ourselves and only look at metrics," well, the metrics are flawed.

40:37 Liz Yeah. And definitely those society awards that count age really disadvantage women with families, because there's just a necessary period where you're not so functional.

40:53 Yunde I think at least we can do, let our attitude know there's potential based on this published paper; women seems like more impacted. At least let the editors know the facts, right, educate them. Do our best.

41:15 Ivan Alright, so Yunde, this was awesome. I really appreciate you taking the time to talk about all this stuff with you. If somebody has thoughts and they wanna continue this conversation with you, what's the best way for them to get in touch with you?

41:31 Yunde The best way is just email me. My email is yundezhao@ucsd.edu.

41:41 Yunde Okay. And Liz, what's the best way to get in touch with you?

41:45 Liz Twitter is the best place to get in touch with me, and my Twitter handle is @EHaswell.

41:52 Ivan If by the time of this recording Elon Musk has not bought Twitter and shut it down, my Twitter handle is @BaxterTwi. You can reach the podcast at @TaprootPodcast on Twitter.

With that, Yunde, thank you again. This was really wonderful.

42:13 Yunde Thank you, both.

42:14 Liz Thank you so much. Talk to you soon.

[Theme music]

42:42 Ivan The Taproot is brought to you by the American Society of Plant Biologists and the Plantae website. It is co-hosted and edited by Ivan Baxter and Liz Haswell; transcripts are by Jo Stormer. If you like this episode, tell your friends and colleagues, and be sure to subscribe on iTunes or in your podcast player of choice. Thanks for listening.

[Theme music]

Liz We are going to take a break now and aim to get back to get back to a new season this summer. If this is the first season you're listening, we urge you to check out our back catalogue on your podcast player of choice. Thank you for listening to this season. Stay safe, and we'll get back to more stories behind the science soon.

[Theme music]