Master Class in Review Integrity

Megan Columbus: Thank you for joining us for this master class in review integrity. My name is Megan Columbus. I am the Communications Director for NIH's Office of Extramural Research. I have the privilege today of being here with my colleagues, Dr. Sally Amero. Sally is NIH's Peer Review Policy Officer. And I have Dr. Mike Lauer, NIH's Deputy Director for Extramural Research. Thank you so much for joining us. Sally, can we start off by you talking about the core values of peer review?

Dr. Sally Amero: Well, I would love to. Thank you! So I think we need to focus on the core values of peer review when we're talking about review integrity. And just as a reminder, those core values are confidentiality, integrity, fairness, security, impartiality, expert assessment, efficiency and transparency. So a few years ago, Mike and I had to figure out how we would define a breach of review integrity, and we decided that a breach of review integrity would arise anytime one of the core values was being compromised. So as we go through today's session, be thinking in your back of your mind, "Which core values are in play here? And where was the breach? What happened that violated a core value of review?" You'll also see that some of these values are competing, so there's tension between some of these core values. And so it's always a balancing act, which core value is at play at any given time. So with that, maybe we can give a little background here, then get into some case studies with Mike.

Megan Columbus: Great! Well, and you and Mike have been, along with many other people at NIH, have been focusing a whole lot on review integrity and really focusing in on this issue in recent years. So what are the most frequent breaches of review integrity that you all have been seeing most recently?

Dr. Sally Amero: Well, that's a good question because we have to be able to detect the breach in order to count it in our frequency counts.

Megan Columbus: Right.

Dr. Sally Amero: But of the ones of which we are aware, I think some of the most prevalent ones are breaches of confidentiality where people tell each other what's going on in applications or in the review meetings. We have a lot of what we call review tampering, which covers all kinds of wrongdoing, but trying to sway the outcome of review by contacting reviewers or bribing or threatening and all of those sorts of things. Then I would say the third category would be gaming the system. And that's a complicated category, but trying to populate study sections with people who will be favorable to your application sort of covers that landscape. But we see all kinds of behaviors that we can't anticipate, so it's always ... We're always on our toes!

Megan Columbus: How do you find out about them?

Dr. Sally Amero: Oh, they come to us from all over. Keep in mind that every year, we bring in 25,000 plus reviewers into peer review. So a lot of people are looking at applications, a lot of people are volunteering to be reviewers, and most of our allegations come from reviewers. We also have some allegations coming from students and postdocs, which have led to some very valuable information and consequences. We are hearing now from institutional officials, so grantee institutions are learning that it is part of their responsibility to notify us if they have information that would lead us to think that a review had been compromised. We hear about some things from the press and media. I don't read the newspaper.

Megan Columbus: I do!

Dr. Sally Amero: But Mike does, and he finds out all kinds of things that way. NIH staff report things that they hear and see, so they come to us from all directions.

Megan Columbus: So the coming to us from all directions, what's our process? What do we do once we receive one of these allegations?

Dr. Sally Amero: So reviewers are instructed to notify their Scientific Review Officer right away. Do not go to anyone else. Don't go to another reviewer on the panel. Go directly to their NIH official and report what they know. NIH officials are instructed to report to more senior officials in their areas of NIH, and those people then forward the allegations to those of us in Mike's job, and we deal with them centrally.

Megan Columbus: I'm guessing that once we start digging into one of these problems, we may uncover other types of things that might be going on, right?

Dr. Mike Lauer: Oh, yeah.

Dr. Sally Amero: That's the truth! Mike is nodding, and, Mike, please chime in with some of your cases. Sometimes we get multiple allegations against the same person for doing different things. And so that's very disconcerting when we have a review integrity problem with that person, and then we learn that they're under investigation for something else at their home institution or with law enforcement, or they're on the lam from law enforcement, all kinds of things. So, yes, we can open a can of worms, and then we have to work with other agencies and federal partners to look at those cases.

Megan Columbus: So people end up going to jail for breaches of peer review integrity?

Dr. Mike Lauer: Not yet.

Dr. Sally Amero: Not yet.

Megan Columbus: Okay.

Dr. Sally Amero: We do have some serious cases that involve not only peer review integrity breaches but these other categories, and some of those are ongoing. But there are other severe consequences that people should be aware of, so people have been fired from their institu -- university positions. We have ...They've lost their funding. Applications have been withdrawn. There can be civil and monetary penalties if the case goes that far. So there are consequences that don't necessarily involve jail.

Megan Columbus: Yeah, serious ones. So, Mike, I know that you've been deeply involved in these cases, and some of them are quite, I think, educational. Could you walk us through some of them?

Dr. Mike Lauer: Sure. So let's start with a case that I think nicely illustrates a number of the points that Sally was making. We found out through some complaints that we received from students in postdocs that there was a department chair. I will call this person Dr. Chair. So Dr. Chair was a funded investigator, was appointed to NIH study sections, and as you might expect, received a large number of applications for which it was expected that this person was going to write reviews. Now an important point, Sally did allude to this, is that before Dr. Chair is able to get access to any of these applications, they have to attest to ... They have to certify that they're going to follow the rules. And one of the key rules is that nothing is going to be shared. Everything is confidential. They're going to write the reviews. They're not going to be sharing any of this with anybody else. What we heard from the students from and from the postdocs was that not only was Dr. Chair sharing applications with them, but actually Dr. Chair was telling them that they have to write the reviews. So Dr. Chair would essentially assign applications to graduate students, to postdocs, even junior faculty. This person was taking advantage of the fact of being chair of the department and would say, "You do this review. You do this review. You do this review." Then needless to say, Dr. Chair would take the reviews, submit them as if they themselves had done the reviews -- Dr. Chair had done the reviews -- when in fact, it was done by somebody else. So we contacted the Vice President for Research. Now this is a really important point. As you know, all NIH awards go to institutions. Institutions in turn employ scientists. Those scientists serve on our peer review panels, so we do take advantage of this institutional leverage. So we contacted the Vice President for Research and said, "What's going on here? We're hearing that this person, Dr. Chair, is asking people in the department, postdoc students, junior faculty, to write reviews. This doesn't seem right. Could you please look into this?" So the Vice President of Research took this extremely seriously, put together an investigation and came back and said, "Well, it's all true, and in fact, not only is it all true, it's actually worse than you think. It's not just a few applications. It's lots and lots of applications. In fact, Dr. Chair may not be writing any reviews at all. All the reviews are being written by people in the department." So clearly there is a violation of NIH rules. There's a violation of confidentiality. But we see it as something even worse than that. We see that as an egregious abuse of power. Essentially Dr. Chair is taking advantage of the fact that they're the department chair and using that to force other people to do work that they have no business doing. They shouldn't have to do it, and in fact, they shouldn't be doing it. When we ask people to write reviews, we're asking the reviewers to write the reviews and not somebody else.

Megan Columbus: So I can imagine that Dr. Chair might be saying, "But this is a great educational opportunity for my students. How are they going to be able to write great grants if they don't get to see these applications?" So I know that you are wanting to make these connections to our core values. Could you comment on that maybe?

Dr. Mike Lauer: Yeah, we ...

Dr. Sally Amero: Well ...

Dr. Mike Lauer: We hear that line ... that they're not doing this because they're dumping work on somebody else. They're doing this to give them an educational experience. Not okay, it is not acceptable to share confidential applications with people who are not part of the peer review process. Now let me just digress a little bit. It is absolutely fine to provide postdocs, graduate students, junior faculty an opportunity to learn how to do reviews. One perfectly legitimate way of doing it would be using applications that come from that institution, and if the faculty are willing to share those applications with people ...

Megan Columbus: Good idea.

>> ... or institution to go through an exercise of learning how to do peer review, that is absolutely fine. In fact, not only is that fine, I would actually encourage that. That's a very good thing. But that's distinctly different from what we're talking about here. We do know that a number of institutions do this, where they take advantage of applications within their own house to provide educational experiences for their staff, and we think that's terrific and would very much encourage that. So anyway, Dr. ... The VPR, the Vice President for Research, was very upset, and came back and told us that not only had there been a violation of peer review rules, but this was an egregious abuse of power, and as a consequence, Dr. Chair was losing their chairmanship. Now they were not only losing their chairmanship, Dr. Chair was not going to be submitting applications to the NIH for at least another year. So the consequences were really severe. The behavior was severe, and I have to say, we were quite pleased with the institutional response, with how seriously the institutional leadership took this. I think this sends a very powerful message to the postdocs and students and junior faculty that their interests would be protected, and that it was okay for them to report this type of thing when they would see it happen.

Megan Columbus: Nice. Sally, do you have anything to add to that?

Dr. Sally Amero: Well, a couple of things. So that particular institution handled this so well. So when they learned of the situation, they excluded Dr. Chair from his laboratory. So they immediately separated him from the people who had come forward - really important point. They interviewed each of the students and postdocs separately and got consistent stories from them all. I think they imposed additional administrative sanctions on Dr. Chair, that he needed oversight for any communication coming to and from the NIH. They just did a really beautiful job. They allowed any student and postdoc to move to another department if they so desired. They just handled every thread. But another core value at play here is expert assessment, and Mike mentioned this. So we recruit reviewers based on their scientific expertise, and I know we have many, many talented, bright and very promising students, but we didn't recruit the student. We recruited the professor for his or her expertise. And a final point is that, once these are out of the chair's possession, once the applications are out, it's harder and harder for us to keep control of them. So we have been told of applications that have gotten loaded onto servers, on the cloud, all this kind of thing, and it's harder and harder for us to maintain control. So for all of those reasons, this was a very egregious situation.

Megan Columbus: Well, that was a juicy case! Mike, do you have other juicy cases?

Dr. Mike Lauer: We've got lots of juicy cases. And before I get to the second case, let me just ... I just want to echo something that Sally just said. It is true that once applications get shared that we lose control over where they go. You may remember that there was a front-page New York Times article from November of 2019. The first paragraph described a reviewer who was sending applications to a foreign country and actually knew that this was wrong, was saying things like, "Keep this confidential," or, "Keep this to yourself," so knew that this was not the right thing to do. But here we have highly confidential, important, sensitive information being sent elsewhere, and we have ... Now in a foreign country, we have absolutely no control over what happened. Alright, so a related way, a second case. So here we have a reviewer who has a laboratory, like many reviewers do. In fact, I would suspect nearly all of our reviewers. And saw something in an application that they thought was interesting. So what the reviewer did is took a screenshot of the section of the application that was interesting, and they sent it to one of their junior faculty or postdocs that was working in the lab and said, "You should look at this. This is exactly the kind of thing that we might consider doing." So this is a sharing of confidential information, but it's using it for personal gain. If you think about this, this is not just sharing for sharing's sake. So fortunately, the recipient of this piece of confidential information thought, "This doesn't seem right," and reported it to NIH. And once it was reported to NIH, then we went down the same route as in the previous case. We reached out to the Vice President for Research. Now we were actually able to show pictures. We had screenshots, and we were able to show how ... In e-mails, we were able to show how confidential sections of the application were being shared, and were clearly being shared for the purpose of use within this laboratory. So what came back was a letter saying that this was clearly wrong, that this faculty member was properly admonished. And interestingly then, the faculty member did something very interesting. This was the reviewer, so the reviewer did something very interesting. They wrote a letter to their Vice President for Research saying, "What I did was wrong, and I feel really terrible about this. I understand why it was wrong. It was wrong because, you know, I violated rules of confidentiality, and I was using somebody else's work for my own personal gain. This reflects badly on me. This also reflects badly on our university, and I'm very sorry for what I put you through." And actually reading this letter, one could get the sense that it was sincere, that there was a sincere sense that, "I've done something wrong, and I really, really truly want to fix it." So we were pleased here, because the Vice President for Research took this very seriously, just like in the previous case. But we also saw possibly an opportunity here for the reviewer, who had improperly shared this information, an opportunity for this reviewer to try to make things right.

Dr. Sally Amero: So, Mike, maybe you could explain why you are contacting Vice Presidents for Research rather than going directly to the reviewer or the person involved.

Dr. Mike Lauer: Yeah, that's a very good point. So this gets at a critical point which we briefly alluded to before, which is that NIH as a funding agency primarily interacts with institutions and not with scientists. Now I know this seems kind of strange. Sally and I are both scientists. There was a time that I was a scientist, and I wrote NIH grants, and I certainly thought I was interacting with NIH although, every so often, my office of sponsored research would remind me that that actually wasn't quite right. But we interact with institutions. The award goes to the institution. The application comes from the institution. The institution is responsible. This is part of what is sometimes referred to as the government-university partnership. Now what this means is, is that the institution is responsible for the behavior of their employees. Many institutions have strong integrity and honesty policies that essentially say that they expect, in fact, they require their staff, their employees to act with utmost integrity in all areas of academic work. And of course peer review is one of the core areas of academic work. Any of us who have done science have done peer review. We do it for journals. We do it for funding agencies. We do it for foundations. This is a critical part of what we do, and we need to do it honestly. So we leverage that, and that's the reason why we go to the Vice Presidents for Research, because effectively what we're saying is, "Your employee, who most of the time is also a PI or key personnel on a grant that is given to your institution, may have behaved in an inappropriate way. We want to bring this to your attention, and we actually ... If there really is a problem, we'd like you to do something about it."

Dr. Sally Amero: Right, so it draws into question the fitness of either the institution or that investigator to be the steward of NIH funds. On the same note, back on the first case, how would one handle protecting a whistleblower, especially a student who came forward?

Dr. Mike Lauer: Yeah, that's really hard, and we understand that particularly people who are students, postdocs and junior faculty are vulnerable. They feel vulnerable. They are vulnerable. They're worried about retaliation. We get that. Now unfortunately, the federal whistleblower laws ... I'm not a lawyer, by the way. But the federal whistleblower laws don't provide the kind of protection that a reporter like this might want to see. Now we have seen situations where ... So we do a few things. One thing is, is that sometimes we will remind the VPR to remind the person in question that retaliation is looked upon quite seriously by the agency. We will recognize it. We'll do the best we can with it. We're not in a position that we can prosecute it, but it is something that does worry us. We found out about another case where a peer reviewer had actually stolen, if you want to say this, took a part of application that was being reviewed, copied and pasted it, and then put it into his own application, and then submitted it to NIH. And this got discovered, and this led to a whole lot of repercussions. But along the way, it was also discovered that this person had attempted to retaliate against the complainant, against the person whose application he had stolen from, and that was something which fortunately the university did take seriously and recognized that as being an additional problem over and above the first peer review violation.

Megan Columbus: Wow.

Dr. Mike Lauer: Yeah, wow.

Megan Columbus: So I think we have a third and final case, right, that you might be able to speak to.

Dr. Mike Lauer: Yeah, so the third case is a bit more subtle, and I could easily imagine that some of our listeners might think, "Really? What's the problems?" So let me go over this, and I will preface this by saying that I can understand why some people, reasonable people, might look at this and say, "Aren't we really getting too excited over a relatively minor thing?" Okay, so what happens is, is that an application comes in, and one of our reviewers who's very meticulous looked at the biosketch, saw that there were some publications listed in the biosketch that have been written by the PI and decided that he wanted to take a look at those publications, which is fine. And then looked those publications up and found something interesting, which is that the order of authors had been reviewed on a number of the publications. Okay, so in a couple of cases, there were two first authors, the first author and the second author, and it's often done ... There are asterisks next to their name, and then underneath it will say, "These two people contributed equally." But what this PI had done is reverse the order so that their name appeared first on the biosketch even though, in the official listing of the publication in PubMed and in the journal, it was ... That person was actually listed second. So even though the asterisk indicated that they had provided equivalent effort, that's not how it appeared in the biosketch, and it didn't match what appeared in the journal. The other thing that was noticed is that another one of the publications had maybe 20 authors, and what the PI had done is knocked it down to five authors. And it wasn't et al. Fifteen of the authors just got left out, so it seemed like there were a smaller number of authors than there really were. Sometimes people will put the first three names and et al. and the first seven names and et al. That's fine. That's a well recognized thing. Well, this reviewer saw this, and said, "Uh-huh, this is no good and turned it ... reported this to the SRO," and so we then decided to look into this. We contacted the Vice President for Research again, here in this case, and something rather interesting happened. So the Vice President for Research found an article that was written by a prominent bioethicist, and this article had been written a long time ago, maybe 10, 15 years ago, that addressed a variety of authorship issues, including exactly this, you know, reversing the order of first and second authors, and presented a very reasoned argument for why this might be okay and also a very reasonable argument for why this might not be okay. But then he said something interesting. He said, "Well, I was giving a seminar on this and talking about the pros and cons, and somebody raised their hand in the back of the room, and I called on this person, and the person said, 'Hi. I want you to know that I run HR for a large pharmaceutical company or biomedical industry company, so we do a lot of hiring, and we have seen this. And whenever we see somebody do this, when they play around with a citation and make it look differently than how it appears officially, we just say, "No." We're not going to hire this person. We do not want to know anything more about this person. Case closed.'" And so then the ethicist said, "Well, that really struck a chord, and having heard that, I would advise to everybody, don't play around. What you should report in your biosketch, or your CV, or wherever else you're reporting, when you report a citation, it should look exactly like it does in PubMed or Web of Science or in the official journal itself. Now there weren't any sanctions here because we did understand this. But nonetheless, I have to say that that's ... When we heard that story about someone who's not going to be willing to hire, that's pretty serious, and so maybe we should use this opportunity as another message to don't test this one. It's perfectly okay if the official paper has asterisks. You can put asterisks into the biosketch. That's perfectly fine. You can do that, and you can write a little notation that you were a co-first author. That's absolutely fine. But don't change what the official record says.

Megan Columbus: Good advice.

Dr. Sally Amero: Yeah, right.

Dr. Mike Lauer: And I have to say, we learned something from this. Cause whereas the first two cases, I think common sense would tell you that those aren't right, I mean along with how we think about the core values of peer review. This third case, we learned something, and I hope that this will ... I hope that, by telling our listeners about this today, if we can prevent one awkward situation or an HR person rejecting an application, we've done something very good.

[ Chatter ]

Dr. Sally Amero: And that reviewer then had questions about that person's integrity, and so it casts a shadow on the review of that application. Might not be wrong, but it can affect the review.

Megan Columbus: So I know during this conversation that we've said, "You know what? We're seeing cases. We're paying attention. You know, there's quite a few cases." I think we need to remember though the number of peer reviews that we do and that while we say that there's quite a few cases and we can give some examples, can you contextualize that, really, in the numbers of peer review so it's not so terrifying?

Dr. Sally Amero: Sure, so we are receiving a little over 80,000 applications a year. I think it's up a little bit right at the moment, but the year isn't over yet. We use about 25,000 reviewers a year. So far, we have removed a little over 100 reviewers for peer review violations over, maybe, the past 5 years. So it's a small number, but they're not acceptable, and we have to deal with it. And the number is probably going to increase as we continue our outreach, and changing the culture. For example, the second case you talked about, sharing applications with students and postdocs, used to be standard practice. And so that's something we're trying to turn around and get the word out that that's not acceptable. So I think it's a small number, an important number.

Megan Columbus: I know, Sally, one of the things that you always say is, "If you see something, say something." And I think that's one of the main messages of our talk today, right, is, if you see something say something.

Dr. Sally Amero: Right, and there are many ways to do that. As Megan knows, we have links now on a number on our public websites that say, "If you see something, say something," and that takes you into a mailbox that comes directly to me, so you can communicate that way. You can communicate with my regular e-mail. You can call me, but right now we're not in our offices, so calling is a little complicated. E-mail is much more efficient. You can contact Mike, I'm certain, as well. So we will do our best to keep allegations anonymous. We talked about the whistleblower case, which is a little bit sensitive when it's a student or a postdoc in the same laboratory, but we have managed around that successfully in a number of cases.

Megan Columbus: Right.

Dr. Sally Amero: And I would finish by saying, you know, this is an opportunity to do the right thing. And I love that quote, I think from Ghandi, that says, "Be the change you want to see," so I'm going to end on that note.

Megan Columbus: Very nice. Mike, do you have anything else to add?

Dr. Mike Lauer: No. I think that's a perfect way to end this, and thank you very much for the opportunity to talk about an incredibly important topic.

Megan Columbus: Great. And just as a last note, we do have a document that details the core values of peer review that you can find at the URL on the screen. We are also collecting case studies. We have these. We will have more on a central web page on the NIH grants site, and you can find them at this URL. And we have lots of information about peer review, should you want to dig in. So thank you for listening, and best to all of you.

Dr. Mike Lauer: Thank you.

Dr. Sally Amero: Thank you, Megan.