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# Standing Committee on Science and Research

EVIDENCE

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Chair: Ms. Valerie Bradford





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• (1600)

[English]

**The Chair (Ms. Valerie Bradford (Kitchener South—Hespeler, Lib.)):** I call this meeting to order.

Welcome to meeting number 113 of the House of Commons Standing Committee on Science and Research.

Today's meeting is taking place in a hybrid format. All witnesses have completed the required connection tests in advance of the meeting.

I'd like to remind all members of the following points. Please wait until I recognize you by name before speaking. All comments should be addressed through the chair. Members, please raise your hand if you wish to speak, whether participating in person or via Zoom. The clerk and I will manage the speaking order as best we can. For those participating by video conference, click on the microphone icon to activate your microphone, and please mute yourself when you are not speaking. For interpretation for those on Zoom, you have the choice, at the bottom of your screen, of floor, English or French. Thanks to all of you for your co-operation.

Pursuant to Standing Order 108(3)(i) and the motion adopted by the committee on Thursday, October 31, 2024, the committee resumes its study of the impact of the criteria for awarding federal funding on research excellence in Canada.

We have with us, as an individual, Dr. Geoff Horsman, associate professor of chemistry and biochemistry, Wilfrid Laurier University. From École de technologie supérieure, ETS, by video conference, we have Christian Casanova, vice-president of research and partnerships, and with the same organization, Ghyslain Gagnon, dean of research. From the Federation for the Humanities and Social Sciences, we have Karine Morin, president and chief executive officer.

Up to five minutes will be given for opening remarks, after which we'll proceed with our rounds of questions.

Dr. Horsman, I invite you to make an opening statement of up to five minutes, please.

**Dr. Geoff Horsman (Associate Professor Chemistry and Biochemistry, Wilfrid Laurier University, As an Individual):** Madam Chair and committee members, thank you for inviting me.

The academy has become an echo chamber of progressive social justice ideas, and this is reflected in the federal research granting process. A previous witness noted a phenomenon described as group polarization. When ideologically uniform groups lack dis-

senting voices, the group often arrives at positions far more radical than those of most individuals in the group. Lack of viewpoint diversity diminishes research excellence.

For example, the Journal of Chemical Education published a paper titled “A Special Topic Class in Chemistry on Feminism and Science as a Tool to Disrupt the Dysconscious Racism in STEM”. This paper described “the development and interrelationship between quantum mechanics, Marxist materialism, Afro-futurism/pessimism, and post-colonial nationalism” and attempted to “problematize time as a linear social construct”.

Our government funded a research grant titled “Decolonizing Light: Tracing and countering colonialism in contemporary physics”, where the authors don't aim to find new or better explanations of light or to seek scientific truth, but rather plan to address the marginalization of women, Black people and indigenous peoples for social equity.

The journal Cogent Social Sciences published a paper titled “The conceptual penis as a social construct”, in which the authors used post-structuralist discursive criticism and the example of climate change to “argue that the conceptual penis is better understood not as an anatomical organ but as a social construct isomorphic to performative toxic masculinity.”

Another paper, in the Journal of Agricultural and Environmental Ethics, titled “Loving the Brine Shrimp: Exploring Queer Feminist Blue Posthumanities to Reimagine the 'America's Dead Sea'”, described “hydrosexuality” as a “more-than-human sensuality and sexuality emphasizing fluidity and relationality” that “offers a cultural understanding of water as a non-binary substance”, and it suggested embracing “watery thinking”.

As it happens, one of these papers turned out to be a hoax and was later retracted by the journal. If you are not familiar with this story—and I am afraid that most people are not—you will doubtless have trouble discerning which one was the hoax, which tells us that a great deal of scholarship has been ideologically corrupted to the point of being, quite literally, beyond parody.

So, the question is this: Do the criteria used to award research funding contribute to this polarization? I believe that they do.

Many will assure us that we can trust committee chairs and rubrics like merit indicators to protect against radical ideology and politicization. I disagree because, in addition to ideological uniformity among academics, some of the merit indicators themselves are highly progressive. Chief among them are those involving equity, diversity and inclusion, or EDI.

Now, here I want to clarify what EDI means, its real-world consequences. These include barring people from faculty employment based on ethnicity or sex. When confronted with this reality of racial discrimination, EDI advocates often retreat to more defensible positions like research design, such as, for example, ensuring that seat belts are manufactured to account for the smaller frames of women or ensuring that both male and female mice are used in experiments.

However, examples like this have nothing to do with EDI as it is practised. These examples simply highlight poor experimental design. Sloppy science is not improved by disenfranchising white men. It's improved by inculcating a culture of high standards and open debate. EDI fails on both counts. It lowers standards by disqualifying applicants by race or sex. Moreover, many people with integrity will not go along with this and will self-select out of federally funded academic research.

With respect to open debate, I can personally attest to many examples of soft censorship. For example, tenured professors have told me that they are too scared to attend academic discussions challenging new ideas or directives involving EDI or indigenization.

I hope you agree that ideological conformity, restricted applicant pools and loss of open debate are all at odds with a thriving research culture. I urge you to remove EDI from all aspects of federal research funding.

Thank you for your time.

**The Chair:** Thank you for that opening statement.

We will now turn to Mr. Casanova and Mr. Gagnon.

I invite you to make an opening statement of up to five minutes between you.

• (1605)

[*Translation*]

**Mr. Christian Casanova (Vice President of Research and Partnerships, École de technologie supérieure):** Thank you, Madam Chair.

Ladies and gentlemen members of the committee, good afternoon.

It is an honour for the École de technologie supérieure, or ETS, to take part in this exercise alongside other Canadian research leaders. Thank you for inviting us to participate.

My name is Christian Casanova, and I am vice president of research and partnerships at ETS. I am joined by Ghyslain Gagnon, dean of research. As both of us are researchers, we are particularly concerned about research funding criteria.

The mission of ETS, which ranks second among engineering faculties in Canada, is to further technological and economic development across the country through applied research activities that contribute directly to technological innovation. We are certain that practical solutions to the great upheavals of our society are generated by research and innovation.

As you obviously know, federal granting agencies, in recent years, have begun to lean toward adjusting evaluation criteria within their communities. In 2019, five of those organizations signed the San Francisco Declaration on Research Assessment, or DORA, which represents a major change that now makes it possible to give preference to the qualitative aspects of projects.

The research that is done at ETS focuses mainly on engineering, and the vast majority of our federal funding comes from the Natural Sciences and Engineering Research Council of Canada, or NSERC. We believe that organization has adopted changes in a rigorous and adequate manner. Although we are satisfied that present evaluation criteria will yield results over the long term, we have uncovered four promising ways in which to exploit the potential of the entire research community in Canada and to generate even greater impacts for Canadians.

First of all, the data are very clear: French-speaking researchers who work in a minority community in Canada face major barriers that prevent them from working as productively as they otherwise could in their official language of choice.

Since linguistic duality is central to our Canadian identity, the universities and federal granting agencies have an important role to play. Given this disadvantage, it is vital that we promote equity for French-language research by setting percentage targets for grant applications submitted in French and for their success rate. Meeting those targets would help better represent the 22% of the population of Canada who speak French, a currently underexploited potential source of knowledge.

Second, we recommend that funding applications continue to be reviewed based on DORA principles and criteria. At the same time, we advise that those principles be promoted in our scientific community, particularly in the context of awareness campaigns designed to emphasize that DORA makes it possible to assess the intrinsic quality of research in a number of forms. Furthermore, as the evaluation of DORA principles and criteria must be applied more broadly, we encourage the granting agencies to provide incentives to stimulate the scientific community's active participation in the review process.

It is important to allow a period of time in which to adapt to these changes and fully and objectively measure their impact on the real and complex issues in our society. Any turning back, which would reintroduce quantitative parameters that have previously proven to be unreliable would be counterproductive.

Third, ETS is persuaded that the complex challenges of our society require interdisciplinary and intersectoral research teams. Consequently, as it has been proven that excellence and impacts are harder to demonstrate in an interdisciplinary research setting, we hope that the evaluation criteria are adapted in such a way as to encourage this type of research. If budgets are established in existing programs and new programs are created for interdisciplinary research, more researchers will join forces to address our country's priority issues.

Lastly, ETS would like to highlight the ecosystem's efforts to create research environments that promote equity, diversity and inclusion, or EDI. However, we recommend that EDI criteria focus on elements specific to research projects and that they be limited to the value of the proposal where applicable. In real terms, we suggest that EDI criteria be withdrawn from recruitment and integration plans and be replaced by institutional guidelines with which projects will have to comply, including continuous evaluation and improvement measures.

- (1610)

That would simplify the process and guarantee real impact.

[*English*]

**The Chair:** That's a little over our time.

Thank you, sir. We'll get to the rest of that with our questions, I'm sure.

For the final opening statement, I'll turn to Ms. Morin.

You have up to five minutes for your opening statement, please.

[*Translation*]

**Ms. Karine Morin (President and Chief Executive Officer, Federation for the Humanities and Social Sciences):** Good afternoon, committee members.

My name is Karine Morin, and I am chief executive officer of the Federation for the Humanities and Social Sciences.

I would like to thank the committee for this opportunity to discuss the impact of the criteria for awarding federal funding on research excellence in Canada.

[*English*]

The Federation for the Humanities and Social Sciences is the national voice for our disciplines, dedicated to the advancement of an inclusive, democratic and prosperous society. Our membership includes 76 post-secondary institutions and 80 scholarly associations, representing a broad community of more than 90,000 researchers and graduate students across Canada.

Our membership recognizes that research excellence across all disciplines has long been a hallmark of Canada's research system, and it remains strongly committed to this goal.

[*Translation*]

I would like to present three main ideas.

First, it is important to note that the funding agencies offer a variety of funding options that are designed to produce different results and that establish different evaluation criteria.

Second, we are witnessing a global evolution in the way research is evaluated, and the federation fully supports the idea that Canada is committed to this direction.

Third, regardless of the range of funding options, peer review is still essential in determining excellence in research. In other words, review must be conducted by members of the research community who have the necessary qualifications to determine research quality.

[*English*]

Let me address each of these three points in some more detail.

Funding agencies establish different funding opportunities to achieve different goals. For the humanities and social sciences, the insight grants administered by SSHRC are a flagship program. It focuses on building knowledge and understanding about people, societies and the world. The evaluation considers three overarching aspects of an application: the aim and importance of the endeavour, the feasibility of the research plan and the expertise of the researcher or research team.

In contrast, the new frontiers in research fund is one that supports high-risk, high-reward interdisciplinary research. As you might imagine, the evaluation criteria will differ to focus on each of those elements.

Overall, to leverage Canada's full research capacity, we need flexible criteria to measure excellence. We must be cautious of a one-size-fits-all approach. For example, citation patterns and publication formats differ in the humanities and social sciences and are markedly different from the STEM fields, making traditional bibliometrics-based assessment tools much less relevant and less effective in our disciplines.

In fact, there has been an evolution in expanding the criteria by which research is evaluated beyond such bibliometric indicators. In this regard, I wish to emphasize the agency's continued engagement in international initiatives such as the San Francisco Declaration on Research Assessment, as well as the Coalition for Advancing Research Assessment. These initiatives have helped recognize that how we determine research excellence must reflect and adapt to new disciplinary approaches and new research-related activities that are undertaken to generate knowledge and disseminate it to achieve greater impact.

Finally, peer review remains critical, irrespective of the funding opportunity. This entails having relevant experts to assess the quality of the research proposal. In all instances, peer review aims for the assessment of a grant application to be fair and unbiased. It also aims to ensure that there are no conflicts of interest and that confidentiality is maintained.

In closing, I wish to reiterate that research excellence requires inclusive frameworks in which an array of disciplines, research methods and researcher perspectives all contribute to the production of new knowledge and its dissemination. To strengthen research excellence in Canada, our system must support and reflect the full diversity and capacity of Canada's research talent.

We look forward to ongoing conversations on this priority.

[*Translation*]

Thank you for your attention.

I will be pleased to answer questions from committee members.

[*English*]

**The Chair:** Thank you for your opening remarks.

I'm now going to open the floor to members for questions. Please be sure to indicate to whom your questions are directed.

We'll start our first round of questions with MP Tochor for six minutes, please.

• (1615)

**Mr. Corey Tochor (Saskatoon—University, CPC):** Thank you, Chair.

Thank you to our witnesses.

Mr. Horsman, we've been talking about group conformity and how that might diminish the quality of research. I get that EDI may contribute to reinforcing that conformity, but if we abolish EDI from the award criteria, do you think that would solve the problem?

**Dr. Geoff Horsman:** I don't think it would solve the problem. I don't think removing that criterion would all of a sudden open up a lot of topics for exploration. It may, around the margins, improve things a little bit. You might, for example, see slightly more improved environments for research without some of these EDI bureaucracies, I guess. I think the problem is that you don't have a diversity of different opinions and viewpoints present in the university and in the broader research ecosystem, so I don't think it's really the end-all.

One thing I think we should consider is this endless expansion of more and more grants and types of oversight bodies and more funding bodies. I think we have to ask if government-funded research will always lead to improved economic growth. I don't think there are convincing arguments. I think mostly private sector research drives economic growth. I'm not saying we should have no public funding, but I think we need to have a conversation about what the appropriate amount is. I think removing EDI certainly is one first step.

**Mr. Corey Tochor:** Some are arguing that government should fund exploratory research, which might mean that a few strange ideas come out. We've highlighted at the committee that there are some crazy things that taxpayers have funded, unfortunately, to be studied. What's the harm in that? Don't we want lots of diversity and to be part of a vibrant research culture in an open society?

**Dr. Geoff Horsman:** Yes, we do, certainly. I think there's nothing wrong with having a lot of different ideas. I think it's important that we are open to all sorts of different ideas. There are a couple of

problems, however. There are essentially two different world views at play in the university now. I think what we have to recognize is that many of these ideas, as in some of the examples I've shown, are part of a strain of thought called "critical social justice". I think they're not playing by the liberal science rules we're accustomed to.

In our liberal society, we tend to have a liberal economic system, with a right of free markets, and a democratic system. The writer Jonathan Rauch coined the term "liberal science". Liberal science is any knowledge production system, via a scientist or a journalist, to generate robust knowledge. There are really only two rules. The first rule is that knowledge is provisional. No one has the final say. Anything could be questioned. If you look at, for example, the history of estimates on the size of the universe, it changes constantly. That's because no one said, "We're done. It's over." What you notice now is that it's becoming more fashionable in the academy to say, "This is beyond debate. The science is settled." It's becoming fashionable to actually break Rauch's first rule.

The second rule is that no one has personal authority. No individual or group gets to decide, "I know the truth. It's just me." You need to have it open to anyone. I tell my students, for example, that if they do an experiment well and describe it properly, it should be replicable by someone on another continent in another culture centuries into the future. It's universal. That rule is being broken through assertions of a certain ethnic knowledge or ways of knowing or lived experience.

I think these are problems that are ascendant in the academy. They have to be recognized, and I believe they have to be confronted head-on.

**Mr. Corey Tochor:** Besides EDI, are there any other award criteria that you think might have a negative impact on research excellence?

**Dr. Geoff Horsman:** I'm sorry. Could you repeat that?

**Mr. Corey Tochor:** Besides EDI, are there any other ways in which they kind of put the thumb on the scale that you think might have a negative impact on research excellence?

• (1620)

**Dr. Geoff Horsman:** I think there are a few issues. For the discovery grant, for example, which is one I'm familiar with, if you look at some of the merit indicators for the proposal, they include things like socio-economic and environmental impacts. That's open to interpretation. You can imagine that if you are a progressive, you might say a proposal that seeks to reduce emissions will have beneficial impacts, whereas someone else, perhaps a more Conservative person, might say that something is better if it expands oil and gas production and leads to economic growth.

There's no agreed-upon definition of what that is. It's really open to a value judgment. Again, because many academics tend to be much more progressive, you tend to prioritize certain types of research over others.

**Mr. Corey Tochor:** Thank you again for the work you do at the universities.

We're out of time, but I encourage you to write any additional briefs on different questions we've asked today. It will be helpful in writing the report that will be coming here shortly.

**The Chair:** Thank you.

Now we'll turn to MP Longfield for six minutes, please.

**Mr. Lloyd Longfield (Guelph, Lib.):** Thank you, Chair.

Thank you to the witnesses.

I want to start my questioning with Dr. Morin.

In your testimony, it sounded to me a lot like you were pulling pieces out of the San Francisco Declaration on Research Assessment, and then you mentioned it. What's the state of play in the academic community in terms of using some of these ideas from, I guess, 10 or 12 years ago now? Are they being embraced by the academic community?

**Ms. Karine Morin:** I think it's been about a decade. Because it is a significant evolution, it's been embraced by the community incrementally and growingly, I would say, and perhaps with some leadership from the funding agencies.

Indeed, over the past decade, the funding agencies have been looking to recognize that bibliometric indicators, which were much relied on in certain fields, are not necessarily a definitive assessment of the quality of the work. It certainly can be seen as having been published in a prestigious journal, but to therefore conclude on its high quality can sometimes be a bit of an erroneous shortcut. By moving away from those types of metrics, what we're trying to say is that it's not just the quantitative aspects of the research or its impact that we want to measure, but the qualitative aspects.

One way this will come to the fore even more is that the funding agencies have indicated that they would move away from the type of CV template that researchers submit along with applications, in which they describe and list, at length, publications, for instance. The narrative CV, as it's sometimes referred to, allows a researcher to select what they wish to highlight and describe in more qualitative terms what the impact has been, what motivated the research, what results were achieved and how it can be of benefit.

Moving from a quantification of the productivity of a researcher as an indicator of the excellence of a researcher to a more qualitative consideration is definitely an evolution. I will wait and see how the research community reacts to that change, but it is something that has been talked about for a bit of time. It has been used by the NIH in the U.S., as well as by the UKRI in the U.K. Some will be looking forward to it and some might be a bit surprised by it.

**Mr. Lloyd Longfield:** I guess the typical power structure is being changed, and the people at the top of that structure aren't going to like the change. People who might benefit from having more exposure, from smaller universities or early-stage research, and equity, diversity and inclusion, when it comes to double-blind reviews so that we don't know anything, really, about the researcher other than what's on the paper in front of you....

I see you nodding. Could you comment?

I've been shocked, in this study so far, to hear about equity, diversity and inclusion being something bad, when almost all universities that I know—for sure, Wilfrid Laurier University and the University of Guelph—have equity, diversity and inclusion as one of their core principles for education. How that wouldn't go into research has been a bit of a surprise—well, a lot of a surprise—to me.

Do you have any comments on that?

• (1625)

**Ms. Karine Morin:** I'll speak to two elements here that speak to identifying a researcher or to a double-blind review when the researcher's identity isn't made immediately available to the reviewers.

Here, I refer first to CIHR, which was studied by Whitman some years ago. He looked at the two main streams at CIHR: one where there was primarily emphasis on the project and one where there was also considerable emphasis on the expertise and background of the researcher. It was when the researcher was being assessed that they saw greater discrepancy in terms of success rates of women. Somehow that was being factored in in a way that was disadvantageous to women.

I refer to the new frontiers in research fund, which does use that double-blind mechanism, and there we saw that success rates were very much in conformity with application rates and, in some instances, even a little higher.

Despite best attempts to focus on the scientific merit of the project, the research plan, the methodologies, etc., when we evaluate the researcher, it does seem that some unconscious bias can filter in and ultimately affect how an application gets evaluated.

**Mr. Lloyd Longfield:** Right, and I think that in terms of the scientific principles, you have to identify biases and you have to do your best to check biases. Part of the peer review process is to have other sets of eyes to try to eliminate biases, which is also the goal of equity, diversity and inclusion.

I don't see this as a political thing. I think this is a scientific approach that should be embraced. Would you agree with that?

**Ms. Karine Morin:** Indeed I would.

I would think that, just as we've identified that there can be risks of certain types of conflicts of interest and we've put in safeguards to make sure that those are presented and put forward.... Sometimes, that may mean that the reviewer will excuse himself or herself. It's the same with being aware of other types of biases. They may not come from conflict of interest, in terms of economic or financial considerations, but other types of considerations can also factor in and—

**The Chair:** That's our time. Maybe you can elaborate on that with another questioner.

We're now going to turn to MP Blanchette-Joncas for six minutes.

[*Translation*]

**Mr. Maxime Blanchette-Joncas (Rimouski-Neigette—Témiscouata—Les Basques, BQ):** Thank you, Madam Chair.

Welcome to the witnesses who are here today to take part in this important study.

Mr. Horsman, I read your material, and it contains the term "inclusive excellence".

Do you think it's possible to combine excellence and inclusion, particularly based on equity, diversity and inclusion criteria?

I'd like to hear your opinion on that subject.

[*English*]

**Dr. Geoff Horsman:** On excellence and inclusion, again, we would have to define terms here. Something we always have a problem with is that definitions are slippery in this world. We would have to define what "inclusion" means. "Excellence" I think we can define, through things we've talked about, like bibliometrics. That's one way to do it. "Inclusion", however, often refers to things like emotional harm protection and safety. It means that if someone says something that offends someone who is a representative of a marginalized group, for example, that is something that must be taken into account to effect that emotional harm protection.

Now, if we mean "inclusion" in the sense of making sure that a whole range of views are included, well, that's something I can get on board with. To do that, I think, becomes difficult when you have, again, a very ideologically uniform population in an academic environment, because we're very collegial. We like to get along. You don't want to say something that might offend a colleague.

I think you would have to build in mechanisms to ensure there is inclusion of diverse ideas. I suggest that one of those might be implementing some sort of official mechanism for a devil's advocate type of approach, where you actually bring in people who can articulate the strongest possible argument on either side of an issue. I think that could culturally change things.

• (1630)

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** Thank you.

In a report entitled "Reality Check", David Millard Haskell writes that equity, diversity and inclusion training is ineffective and can even exacerbate prejudices.

What do you think of that conclusion?

[*English*]

**Dr. Geoff Horsman:** I think that conclusion seems to be strengthened all the time. We just had another report out last week or the week before from the United States, out of Rutgers University, I believe. This report actually did some experiments and showed that a lot of this diversity training actually increases negative responses toward certain groups.

For example, I believe they had people read different passages of text. One would be a text on something completely benign, like corn production in the United States, and the other passages would be from books by critical race theorists like Ibram X. Kendi. Depending on what passage they read, they would then interpret a very neutral circumstance in a different way. For example, they would say that a person applied to an elite east coast university and after an evaluation by an admissions officer, they were rejected. People who had read an Ibram X. Kendi passage, for example, would have a considerably higher likelihood—I can't remember the numbers, but say 30%—of interpreting some sort of misdeeds by the admission officer.

Again, I think there's a lot of evidence that EDI does cause problems.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** I'd like to get your opinion on reports that have been shared by certain researchers, that they themselves and colleagues falsify their EDI statements and even lie about their convictions or use tools such as artificial intelligence and ChatGPT to circumvent funding criteria.

Consequently, without any tangible evidence that EDI criteria are effective, how can we know if this approach actually promotes or prevents science and excellence?

[*English*]

**Dr. Geoff Horsman:** As I understand the question, it's about whether using ChatGPT to write an EDI statement would improve the EDI statement. I guess it would probably give you a good EDI statement. The problem with an approach like that is that it highlights a serious problem, fundamentally, where people would think it's okay to outsource their thinking to ChatGPT to write an EDI statement.



I think this highlights a really important problem. When government grants require you to state what your values are that are in accord with a government research body, and that you should be promoting this set of values, what I've seen is that many colleagues are just resigned to the fact that they don't agree with it, but what are they going to do? They've made their peace with it and they will just say what they need to say. That means you're incentivizing lying.

**The Chair:** Thank you. That's the time.

We will now turn to MP Cannings for six minutes, please.

**Mr. Richard Cannings (South Okanagan—West Kootenay, NDP):** Thank you, and thank you to all the witnesses for being here.

I'm going to turn to Ms. Morin to talk about the criteria. This study is about the criteria used by the federal government to assess and fund research. Could you tell us how that works now? In terms of the tri-council grants, what criteria do we use when we're looking at a grant application, for instance? Mr. Longfield was talking about biases. What are the ways we get around that?

I'm not sure if you're familiar with all the tri-councils or just SSHRC, but could you try to explain to us what criteria are used now?

• (1635)

**Ms. Karine Morin:** I thank you for that question, because I do think that this is really the essence of what you're trying to get at. Indeed, there are many different funding opportunities across the three agencies. In each case, the funding opportunity will be framed to try to achieve different types of outcomes.

The one I was referring to, the insight grants for SSHRC, is considered the traditional investigator-driven research funding opportunity and sets forth what I think are the expected credentials of the researcher—a demonstration that the researcher will have the ability to undertake the research and also a worthwhile question that is well framed, etc.

In contrast, I can say that on the SSHRC side, there are also those funding opportunities that are much more towards collaborations of various types, partnerships of various types. What will then get evaluated is much more the selection of a partner, the fit with a partner, and the partner or collaborator being able to demonstrate a commitment to the endeavour. It really does vary greatly.

There has been a sense that there is an expectation by NSERC of EDI statements, which I think is a slight mis-characterization of what is being asked. Researchers under those discovery grants are expected to engage in the training of their graduate students, of others who are participating in the research in a lab environment and whatnot. What is being asked is that the researcher or principal investigator take on responsibilities towards fairly supporting all who are part of the research endeavour, making sure there are opportunities for the different types of individuals who are participants in the research.

That sort of training plan that is put forward is where we would ask that all be treated equitably; that there be a recognition that the diversity, whether it's backgrounds or academic training and what-

not, will be respected and embraced; and that there be a sense of belonging established in a research environment. It seems a relatively responsible expectation of those who have the responsibility of training the next generation.

**Mr. Richard Cannings:** Moving up or down the ladder, one thing that is often used to assess the expertise of a researcher is their publication record. We have the criteria used to assess those publications when they're being submitted, so it becomes kind of a "once removed" version of that.

I imagine it changes somewhat from journal to journal, but how are those papers generally assessed? What criteria are used there? Is there more of an attempt to have an anonymous reviewer situation, where the reviewer might not know who the author is? I know that the reviewer has the right to remain anonymous in some cases. What's the general system in the SSHRC world?

**Ms. Karine Morin:** Coming back to the SSHRC world, in that instance of grants, indeed a researcher would demonstrate expertise in referring to work that has been published. Certainly, there can be recognition of a very relevant journal for a particular discipline or a very good fit of having published a certain type of research in certain types of journals, so there will be that qualitative assessment, which is a reasonable assessment to make.

What gets dangerous—or perhaps a shortcut, I should say—is to look only at those publications that are right away considered highly prestigious and not to take the time to actually look for oneself, as a reviewer, at the quality of the paper that did make it into that prestigious journal. There's a notion that if you have an article in one of those journals, you must have.... That's where a peer review committee can be a little bit more of a check and balance, so that if some reviewer has a tendency to sort of say, "Oh, it was published in a prestigious journal", others would say, "Yes, but we know the quality of it."

That's where the DORA, the Declaration on Research Assessment, is really trying to displace that focus away from prestige, citation factors, etc. and towards the quality of the actual piece of work.

• (1640)

**The Chair:** Thank you. That's the time.

Maybe you could pursue that with your next round.

We'll now start our five-minute round with MP Viersen.

**Mr. Arnold Viersen (Peace River—Westlock, CPC):** Thank you, Madam Chair.

I would like to direct my questions to Mr. Geoff Horsman, Ph.D., professor of chemistry and biochemistry at Wilfrid Laurier University. Thank you, sir, for being here.

I see that you've written an op-ed recently. I haven't had a chance to read it. You ask, "How much confidence can we have in a research ecosystem that incentivizes betraying oneself?" It caught my attention just recently, and I was wondering if you could expand on that. Is this connected to the declining trust in institutions that we're seeing, or are you talking about something else?

**Dr. Geoff Horsman:** Yes, I think you're referring to a quote from an op-ed that was published in the Toronto Sun in February, entitled "Scientists and engineers to public: save us from ourselves". It was really a plea to have some sort of intervention, perhaps, in trying to remove these EDI directives. In that particular one, I cited examples of open racial discrimination in hiring faculty. There was a call for six Black and six indigenous faculty, and it involved discrimination against those two groups.

While I agree that people are well-intentioned, I think what happens is that you end up institutionalizing racial discrimination. I don't think that instantiating this type of sectarianism in a university or a society is healthy.

**Mr. Arnold Viersen:** Has DEI had any impact on the pursuit of excellence? Can you say one way or the other?

I just looked up the SSHRC DEI web page, and there are several pages of it. Presumably, their recommendation around DEI is that it will make our research better.

Has there been any evidence for or against that argument?

**Dr. Geoff Horsman:** I don't know. Well, it depends how you'd measure it. How would you measure improved excellence? The devil's in the details here. Are you going to get more publications, more higher-impact publications? I don't know.

Just as a logical argument, if your hiring initiatives exclude most of the population, then it seems that statistically, mathematically, you are not going to be hiring the best. The counter-argument would be that, somehow, in the normal hiring process, certain ethnicities are excluded through some vague mechanisms that are never clearly articulated. Just on a logical point, I don't understand how it can improve excellence.

**Mr. Arnold Viersen:** We've heard a number of times about DORA—I think that's an acronym—and the San Francisco policy.

Could you recommend those things, and can you maybe just explain them a little bit?

**Dr. Geoff Horsman:** I think probably Ms. Morin would be better placed. I am aware of them, but I am not very—

**Mr. Arnold Viersen:** You're not endorsing either of them.

**Dr. Geoff Horsman:** No.

**Mr. Arnold Viersen:** Okay.

Ms. Morin, could you maybe clarify for me a little bit what these acronyms or policies are?

**Ms. Karine Morin:** It is often referred to as DORA, the Declaration on Research Assessment.

**Mr. Arnold Viersen:** Are they the same thing?

**Ms. Karine Morin:** Yes, that is the same document.

**Mr. Arnold Viersen:** Would you be recommending that as a policy to be pursued by universities across the country?

**Ms. Karine Morin:** A number of universities have signed on, as have the federal funding agencies.

**Mr. Arnold Viersen:** Okay.

Mr. Horsman, you are recommending abolishing EDI from the tri-council agencies. What would you suggest? Do we need to replace those with something else, or can we just get rid of that entirely, and would the process then be equitable and fair, in your opinion?

• (1645)

**Dr. Geoff Horsman:** I think you should just abolish them.

I don't know what you would replace them with. If you just have the simple merit, whatever that is—publications, the merit of the research—I think that is all you need. I don't know why you have to complicate it.

**Mr. Arnold Viersen:** What is your perception of the public's concern about, or perception of, these kinds of DEI criteria?

**Dr. Geoff Horsman:** You had Professor Kaufmann here last week, I believe. I think he pointed out, for example, that the public is 70:30 against it. They prefer colour-blind approaches to issues like this. Taking into account—

**The Chair:** I'm sorry. That's half a minute over our time.

Thank you.

Now we will turn to MP Diab for five minutes.

[*Translation*]

**Ms. Lena Metlege Diab (Halifax West, Lib.):** Thank you very much, Madam Chair.

First, I have a question for Mr. Gagnon, the dean of research at the École de technologie supérieure.

Mr. Gagnon, you are a professor of electrical engineering, and you've designed a more publicly accessible electrocardiogram system in co-operation with Concordia University.

Would you please tell us about the value of the research projects that cover various fields and about what they contribute to broader fields of research?

What should our role as MPs be?

Right now, we're studying the impact of the criteria for awarding federal funding on research excellence in Canada.

Do you think it should be completely independent of political decisions?

**Mr. Ghyslain Gagnon (Dean of Research, École de technologie supérieure):** Thank you for that question.

I'm here as the dean of research to discuss all research at ETS. I didn't expect to have to answer a question about my own research work, but I'll be happy to give you an answer.

The purpose of my research project was to design non-contact electrocardiograms, ECGs, that would make it possible to conduct tests in hospital waiting rooms and to detect heart signal anomalies. We currently don't have enough equipment to conduct ECGs on all patients in hospitals. People undergo ECGs only when they present with disturbing signs. ECG signals help detect, in advance, diseases that can then be better treated in advance. So by using furniture that has integrated ECG sensors, we can prevent disease.

This kind of project involves scientists from several fields. We need the expertise of people from many different fields in order to solve society's real problems, which are complex. In this instance, we had engineers and a cardiologist. We also have to involve people trained in ethics and social acceptability, for example. If we want research projects that have an impact on and are accepted by society, we have to cover all these angles and involve experts from many fields.

In a context in which researchers devote a lot of time and energy to multidisciplinary research projects such as this, it's harder to demonstrate the impact of funding criteria on research excellence because that involves working with people from many different disciplines. It's already more complicated to introduce a research protocol.

Furthermore, since contributions are made by many researchers, when you look each researcher's assessment file, there's always a minor difference between researchers who are very much involved in multidisciplinary research activities and others. That's why we recommend that budgets be set aside for interdisciplinary research projects so we can compare apples to apples and oranges to oranges.

• (1650)

**Ms. Lena Metlege Diab:** Thank you very much.

I'd like to ask Ms. Morin a question.

[English]

We talked a lot about peer and merit review, and about the importance of it, or the non-importance, as some people might think. I think, generally speaking, most of us believe it's important.

Can you speak to the credibility and how that places Canada on an international setting, please, if it does or not?

**Ms. Karine Morin:** Certainly. There have been evaluations of the peer review—or merit review, as SSHRC tends to refer to it. Its process has been internationally recognized as being up to those standards. There is careful consideration of the entire makeup of a committee and of the diversity of views that will be present at a committee meeting and that will have an opportunity to be exchanged.

It will be on linguistic considerations. It will be the disciplinary relevance of these experts. It will be their geographic representation and their institutions. It's also in terms of the preparation of those individuals. I've referred to guidance on matters of conflicts of in-

terest and confidentiality. I've mentioned guidance on unconscious bias. There are also staff involved in assisting in an adjudication process that is objective and that is based on the relevance of the information in front of committee members.

**Ms. Lena Metlege Diab:** I don't know if I have any time, but in my opinion, if there's federal funding, then considerations such as including more diverse populations—for example, women, indigenous people or whomever—are important.

Can I hear you on that? You represent over 91,000 researchers and grad students.

**Ms. Karine Morin:** That's absolutely correct. That diversity is also very significant, and it is brought into those committees for that very reason.

**The Chair:** Thank you very much.

We'll now turn to MP Blanchette-Joncas for two and a half minutes, please.

[Translation]

**Mr. Maxime Blanchette-Joncas:** Thank you, Madam Chair.

My first question is for Mr. Casanova.

Mr. Casanova, you discussed the possibility of having mechanisms or incentives for promoting equity in French-language research.

Would you please clarify your recommendations?

**Mr. Christian Casanova:** With your permission, I'll let Mr. Gagnon answer that question.

**Mr. Ghyslain Gagnon:** Thank you, Mr. Casanova.

I'll begin with a few figures on French-language research.

In the past five years, the success rates in the NSERC competition under the discovery grants program have been 49% for applications submitted in French and 63% for applications in English. NSERC measures success rates in a number of groups. This is the only group that showed a significant difference. Four hundred applications were submitted in French and 13,000 in English. Franco-phone researchers submit their applications in English. Those who submit in French have a much lower chance of success.

We mentioned in our opening remarks that we need to begin by setting application targets, by which I mean the percentage of applications submitted in French and success rates.

We strongly believe that solutions will come from the people who have expertise in the sectors, the funding agencies in particular. If targets are set, the people who belong to those agencies will find solutions and ways to meet those targets.

We need to begin with potential solutions that are likely to promote greater equity.

For example, researchers could be given a chance to describe research programs in French. We know that content drafted in French will run to a few more pages than in English. We could also be careful in selecting the individuals who constitute the review committees.

Considerable communication and awareness efforts will also have to be made to encourage French-language researchers to submit more grant applications in French.

In starting by determining targets that must be met, we really believe that people will come up with other potential solutions.

• (1655)

**Mr. Christian Casanova:** With your permission, I'd like to add a comment.

The really adverse effect is that we have colleagues who would like to complete their applications in French but hesitate to do so. They ultimately decide to do it in English because that gives them a better chance of securing funding. This is unacceptable.

**Mr. Maxime Blanchette-Joncas:** Thank you.

I'm going to continue with Ms. Morin.

Ms. Moran, you discussed the importance of the San Francisco Declaration on Research Assessment, the purpose of which is to promote research assessment practices that are equitable, diversified and based on the actual quality of work.

Has the Federation for the Humanities signed that declaration?

**Ms. Karine Morin:** Since we don't do those kinds of assessments, we haven't signed the mission.

**Mr. Maxime Blanchette-Joncas:** Does your organization support the declaration's recommendations?

**Ms. Karine Morin:** We support them.

**Mr. Maxime Blanchette-Joncas:** I see.

What do you think is missing for the the federal government to follow suit?

More particularly, what would it take for university institutions that haven't signed to do so?

I see the declaration dates back to 2013.

**Ms. Karine Morin:** The declaration has attracted a lot of attention over time. Perhaps the idea is to make up for lost time. However, the granting agencies are making changes that are more consistent with the declaration. Since universities and researchers will necessarily have to follow suit, I expect there will be an increase in the number of universities that endorse it.

[English]

**The Chair:** Thank you. That's the time.

Now we'll turn to Mr. Cannings for two and a half minutes.

**Mr. Richard Cannings:** Thank you.

I'll go back to Ms. Morin in order to finish a thought I had just as I was cut off. We were talking about peer review.

It strikes me how, in the last meeting we had on this, there was talk of how many papers are being.... I'm talking now about the peer review of publications, but I guess it comes into peer review for project applications, as well. The trouble with peer review is that there are only so many peers out there. I think we heard there are two million to eight million papers published every year. There are a lot of journals that are kind of spurious in terms of what they're publishing. Maybe some of those are the ones Mr. Horsman was talking about. I hear a lot from former colleagues of mine who are overwhelmed by peer review requests.

Is that a problem? You were talking about going from peer review to peer review committees. It seems you're now looking for more people. It all sounds like a good idea, but I'm wondering about the capacity of researchers to take part in this.

**Ms. Karine Morin:** Thank you. It is an important question and consideration.

When assessment of productivity is so much about quantity, we get to the challenge of peer review fatigue. There is such a high volume of publications that have to be distributed among the relevant experts in order to get work published in an increasing number of journals. That has been spiralling in a way that is somewhat unsustainable.

The San Francisco declaration is trying to move us away from productivity in terms of volume and more toward productivity in terms of quality. We hope that, indeed, we might see a bit of a recalibrating of the effort required of peers to evaluate each other's work so that it isn't always a race to publish more, but to publish in a smarter way.

A narrative CV is no longer an invitation to have pages and pages that list hundreds and hundreds of publications—in the case of very prolific scientists at the end of their career. If we ask those very scientists to select half a dozen of their most important works, suddenly we may see not as great a race toward more publications, and a less burdensome load on peers to evaluate each other's work for the sake of getting it published.

**The Chair:** That's a bit over our time. Thank you so much.

If you have additional comments you wish to submit to the clerk, you can certainly do that.

I want to thank our witnesses, Dr. Geoff Horsman, Christian Casanova, Ghyslain Gagnon and Karine Morin, for their testimony and participation in this committee study.

We're going to suspend briefly while we get ready for our next panel.

Thank you.

• (1655)

(Pause)

• (1705)

**The Chair:** Welcome back.

For those participating by video conference, please click on the microphone icon to activate your mic. Please mute yourself when you are not speaking. For those on Zoom, interpretation is available, and you have the choice, at the bottom of your screen, of floor, English or French.

It's now my pleasure to welcome, from the Canadian Alliance of Student Associations, Wasiimah Joomun, executive director.

From the Canadian Black Scientists Network, we have Dr. Maydianne Andrade, past president and co-founder. She's with us online.

Up to five minutes will be given for opening remarks, after which we'll proceed with our rounds of questions.

Ms. Joomun, I invite you to make an opening statement of up to five minutes.

**Ms. Wasiimah Joomun (Executive Director, Canadian Alliance of Student Associations):** Good afternoon, Madam Chair, esteemed committee members and fellow witnesses.

I would like to begin my statement by recognizing that we are meeting today on the territory of the Anishinabe Algonquin Nation.

[*Translation*]

With our partner Union étudiante du Québec, the Canadian Alliance of Student Associations, or CASA, represents 400,000 students across the country.

[*English*]

Innovation, productivity and knowledge production in Canada depend on having capable researchers, including both undergraduate and graduate students. CASA recognizes not only the importance of the immediate knowledge products of research but also the potential of the system to promote the development of talent.

The long-term impact of research is not just in the product but the people. We know, for instance, that only 19% of Ph.D.s become faculty. The remaining 81% go into industry, leveraging their transferable research, technical and critical thinking skills to allow them to understand and solve complex problems in the workplace.

[*Translation*]

Today, we are presenting recommendations regarding the importance of personal factors in research and the importance of promoting researchers who have traditionally been excluded from the research environment. We are presenting recommendations concerning research projects conducted by professors who recruit students for their research teams and on scholarships directly awarded to the student population.

As regards funding criteria, we want to emphasize that the actual research topic is only one of the factors involved in assessing proposals. CASA wants to emphasize how important it is to assess proposals based on the development of Canadian talent.

[*English*]

Assessments of the training benefits for graduate and undergraduate students supported through federally funded research projects are currently spread across different evaluation criteria during ap-

plications. This means that personnel plans can be obscured by other factors. CASA believes that federal funding programs like the insight grants and the discovery grants should have a stand-alone category with a focus on both the quality and the quantity of opportunities for personnel training.

In addition, CASA advocates for institutions with faculty receiving federal research funding to ensure that students involved in these projects receive adequate support. This could be made up of institutional funding, teaching assistantships and private industry support, as well as funding from the federal research grant.

CASA also supports improving access for those students who face barriers participating in Canada's research ecosystem. We encourage the funding agencies to provide feedback for graduate students and postgraduate scholars who fail to receive an award, so that they may improve in future applications.

[*Translation*]

As a result of the fact that the Vanier scholarships have been consolidated into one new streamlined talent program, Canada has lost the minor funding niche for outstanding international doctoral candidates who work on projects that will benefit the country. We encourage this committee and the government to maintain a flow of funding for doctoral students for which international students are also eligible.

We also acknowledge the importance of constant support for francophone research, and we approve of the recommendations of the Bouchard report on francophone research. We think the committee's report on French-language research contains many promising recommendations on the subject.

[*English*]

Furthermore, indigenous researchers face unique barriers. We have a statement from Benjamin Kucher, chair of the national indigenous advocacy committee at CASA. He wrote:

Supporting Indigenous researchers is essential for fostering equity in academia and advancing diverse perspectives. Evaluation committees must broaden their criteria to value Indigenous methodologies, community-based research, and culturally significant topics. This approach acknowledges the legitimacy of Indigenous knowledge systems and addresses systemic biases. Inclusive evaluation practices empower Indigenous scholars, enrich academic discourse, and contribute to meaningful, community-driven research outcomes that uphold principles of reconciliation and Indigenous sovereignty.

Finally, we wish to note that the new capstone agency will have an ongoing role in ensuring that criteria continue to be relevant. Student representation on the capstone agency's board would represent the student voice in the agency's ongoing program design and oversight.

Canadian student researchers are a key element to driving Canada's productivity and innovation. Our hope for this study is that funding criteria will help them achieve this, not just through research itself but through promoting the development of the skills that will help graduates and their future employers succeed.

Thank you for your time, and I look forward to your questions.

• (1710)

**The Chair:** Thank you for that.

We will now turn to Dr. Andrade.

I invite you to make an opening statement of up to five minutes.

**Professor Maydianne Andrade (Past-President and Co-founder, Canadian Black Scientists Network):** Thank you, Madam Chair.

Thank you to the committee for inviting me to discuss this important issue. I've thought a lot about research excellence, how we define it and how we assess it. In addition to being on the Canadian Black Scientists Network, I have served as vice-dean of faculty affairs at the University of Toronto Scarborough. In that role, I oversaw assessments and career progression for over 400 faculty members from across fields. I'm also currently the chair of the national Killam selection committee, which adjudicates the Dorothy Killam fellowships and Killam prizes, some of the most prestigious research awards in Canada.

What is research excellence? Most people agree that excellence is consistently producing research that is rigorous, repeatable and transparent, with a positive impact on the field of study or on society. Impact is one of the key elements of excellence, but it can be very hard to assess in the short term. In retrospect, impact often involves disruption and innovation that breaks with conventional thinking or use in a particular area, adding something novel and valuable to theory, practice or translation into benefits for society.

The most commonly used metrics for research excellence in the past were relatively quick and easy to assess and generally fell into two categories. One was output. This included the number of papers, the number of citations and the impact factors, things we've talked about already today. The other was recognition and experience—the number of awards and fellowships you received and your track record of training and related experiences. Were you in the lab of a Nobel Prize winner? Well, then, you must be good.

Canada is now recognized internationally for research excellence. That has been built on supporting researchers from across the country and assessing them with these metrics. But the pathways from research to impact can change, and they are changing. The criteria for assessment have to change with them, or Canada will be left behind. To retain and build Canada's impact, the tri-council and our comparators internationally are evolving to use broader criteria. There is good evidence that the traditional measures no longer capture or encourage excellence. Basically, the ideas that affect Canadians the most are not necessarily the same as the ones that produce the most papers or the most citations.

First, even as the number of publications has skyrocketed in the past decades, the proportion of those papers that are disruptive and truly innovative has plummeted. This was shown most recently in a

definitive study published in *Nature* that looked at 45 million manuscripts and 3.9 million patents from 1945 to 2010. Both showed a significant decline, a 70% to 90% decline, in disruption and novelty. Tallies of papers, patents and impact factors are metrics that are not fit for purpose. Worse, using these as our primary metrics encourages researchers to publish more and more, even if it matters less and less to Canadians.

Second, there's a substantive body of literature showing that recognitions like awards, fellowships and opportunities to do research, particularly in top labs, are affected by identity, not just by scientific promise or excellence, and perceptions of race, gender, socio-economic status and whether you live near a large university. In Canada, the challenge of being pushed to do science in English can affect conventional metrics. For example, a number of studies have shown that standardized application packages and emails are treated differently if the names attached indicate that women or racialized people are submitting them.

Another recent example is the record of Nobel Prize winner Katalin Karikó. Dr. Karikó persisted in science despite outright sexism, being judged as an underperformer and being pushed out of research labs. Her research eventually made it possible to create the mRNA vaccines against COVID. That research was published in a low-impact journal after one review at *Nature* concluded that her work was not important.

The tri-council has recognized these problems and is seeking to ensure development of the next generation of talent across the country by encouraging researchers to be intentional about inclusive recruitment and mentorship in their publicly funded research labs. It really is about HQP, or highly qualified personnel. This is critical to our future science and innovation ecosystem. We cannot afford to leave talent on the sidelines.

As far as output goes, the tri-council has not discarded the traditional metrics. They're still there. Incremental advancements are still important, but they've added a wider range of assessments and impacts. Canada is not alone in this. As you've already heard, the San Francisco Declaration on Research Assessment has been adopted worldwide. It is a rigorous guide to broadening our understanding of excellence to include a range of impacts and outputs and the accomplishments and talents of diverse people from across the country. Change is never easy, but this evolution of our understanding of measuring excellence is critical to retaining Canada's international impact and our internal fuel for innovation.

Thank you very much for listening to my thoughts.

• (1715)

**The Chair:** Thanks to both of you for your opening remarks.

I'll now open the floor for questions. Please be sure to indicate to whom your questions are directed.

We'll ask MP Viersen to start off for six minutes, please.

**Mr. Arnold Viersen:** Thank you, Madam Chair.

I want to thank our guests for being here.

I just wanted to note that there's been a relatively high-profile case right here in the Parliament of Canada of the indigenous identity of a cabinet minister coming into question. This is something I just googled minutes earlier around faculty and faculty requirements. I thought, "Maybe this cross-pollinates." Sure enough, there is an endless list of stories of this.

How do we ensure that if the government is pursuing this DEI, it doesn't happen in the academic world, essentially? You noted that the particular person studying mRNA eventually got their research forward and is a hero today in that.

How do we pursue that excellence without promoting self-identification that isn't necessarily correct?

**Prof. Maydianne Andrade:** Thank you very much for that question. Identity is always a tricky issue. I'm not going to deny that.

I'll start by answering in one way, which is that the guidelines and measures that are in place in our tri-council assessments are around the fair and equitable recruitment and mentorship of trainees. You won't see EDI, as people call it, put in the other two criteria, which are the excellence of the researcher and the excellence of the actual research project. It really is how you ensure that you're not turning away people who have talent because you're in a rush and perhaps there's some sort of bias or you have a connection to some particular lab.

If you're talking more about recruitment of faculty members to try to redress some historical and current imbalances in representation, that is a different question. Some of the institutions are coming up with guidelines for how to think about identity—indigenous colleagues suggest that it involves going to the community as part of that process—but that is not the key aspect of the goal.

I just want to say that I actually despise "EDI" and "DEI" as phrases, because what they're concealing is that there's actually really good evidence that in the absence of corrective measures, people like me, especially when they're junior—not me now, because I'm a professor—are not being treated in a way that's consistent with human rights in Canada. At this particular point in our history, when the Canadian Human Rights Commission has admitted, for example, to anti-Black racism within its walls, it is not likely that we won't see those kinds of phenomena happening elsewhere in our systems.

Thanks for that question.

**Mr. Arnold Viersen:** We heard about another area earlier this week from Retraction Watch, which has done an excellent job of reporting on falsified or poor research. We heard about a professor from the University of Toronto who works in molecular genetics.

One of his papers had been cited over a thousand times by more junior researchers, only for that document to be then retracted.

What kind of collateral impact does this have on the people who have cited this work, when it's now basically up for question? How do we prevent that from happening?

• (1720)

**Prof. Maydianne Andrade:** That is a horrible occurrence, especially when it's something to do with biomedical advances or technologies that are helping people and have led people astray.

It is something that happens all over the research landscape. You can look at any field and find retractions. You'll find that the retractions and the allegations of poor research practice are restricted to a small subset of researchers, so it's not common.

At the same time, what we're doing currently is literally "publish or perish". When I came up through the system, people said you had to have a lot of papers. It wasn't so much about the quality. Some of us resisted what they used to call "least publishable units", which means chop it up as fine as possible. That's the kind of mindset that pushes people to fabricate data.

The way we control for that is with things exactly like Retraction Watch. There are people now who have tools and are looking for fabrication in figures and in statistical methodologies. On the other side, really rigorous peer review can protect against this. The problem is that it's not always applied in the ways it should be, because of, to be honest, nepotistic effects.

**Mr. Arnold Viersen:** I'll move over to the student associations organization.

Do you have any comments around any of the questions I asked the other groups?

**Ms. Wasiimah Joomun:** Concerning the comment on indigenous researchers, I think the best way to navigate that, as someone who is not indigenous myself, is going to the community and asking them what they need and, for the capstone organization, looking to have representation and having that ongoing consultation. This is something that we do ourselves with our indigenous researchers and our indigenous students. I think the way to better represent them and to know what they need is to go directly to them and have them around the table.

In terms of fraud, as Maydianne mentioned, it's about rigorous peer review. There's no tolerance for fake information, but we need a process that's more rigorous and does not penalize everyone for bad behaviour. Hopefully, having more rigid criteria would mean that people are not producing articles in volume but in quality.

I think that's why this study is currently happening, too. How do we have those criteria and that impact to ensure that this doesn't keep on happening and there is quality versus quantity being produced?

**The Chair:** Thank you. That is a good place to end. It's a little bit over.

Now I'll turn to MP Jaczek for six minutes.

**Hon. Helena Jaczek (Markham—Stouffville, Lib.):** Thank you, Madam Chair.

Thank you to both our witnesses.

I will start with you, Dr. Andrade. Congratulations on your recent award at the Canadian science policy conference here in Ottawa. We're very pleased to see you as one of our witnesses.

During the course of this study, we have heard some implications from other witnesses that there is a requirement to espouse progressive points of view as opposed to perhaps more conservative views. In your experience, have you ever been aware of this type of requirement in terms of funding applications by individuals or organizations?

**Prof. Maydianne Andrade:** Thank you for that question and for the congratulations.

I think that it is sometimes the case that people can be in a department that, say, has a particular culture, and they may feel pressured to speak in particular ways or use particular language. Our funding agencies, though, have a rubric, and the rubric is pretty extensive.

As I said, for example, for the NSERC discovery grants, which I'm most familiar with, there are three chunks. One chunk is the excellence of the research. Equity, diversity and inclusion don't show up in there, unless you're doing something that has to do with gender, in which case you have to deal with GBA+, which just means you're doing good research. There's the excellence of the researcher, and then there's highly qualified personnel.

In Canada, if you haven't thought through how to deal with the fact that you're going to get diverse applicants and that there are well-documented unintentional effects of bias on how we judge each other, then you're not doing your job as a researcher. We're publicly funded. We have an obligation to the people of Canada, which includes everyone in Canada. Then, on the flip side, we need to make sure that we are, in fact, allowing that talent to grow where it is.

**Hon. Helena Jaczek:** Thank you for that.

Ms. Joomun, I think you've heard some of the witnesses' positions as well in terms of some sort of bias towards more progressive points of view that need to be somehow expressed in the grant application. Are you aware of anything among all your agencies or all the students you represent?

• (1725)

**Ms. Wasiimah Joomun:** From what we've heard from students, the narrative CV does help with people bringing a little bit more of their perspective, but I think it's about having that diverse perspective and the investment in people that we have. I do agree with Dr. Andrade there. We are trying to have many diverse perspectives around the table and do justice to the federal funding program. If you are to do research for the economy and for the innovation of the country, you are kind of investing in the talent and the skills of the people.

When we look at research, we look not just at the particular project but also at the people we're investing in, because these are the people in future years who will become innovators and entrepreneurs and will be hiring people. Having that diverse perspective allows for a diversity of people and investment in diverse people within the system.

**Hon. Helena Jaczek:** Are you seeing that impact in the types of training opportunities that are available to students? You're seeing results, I presume.

**Ms. Wasiimah Joomun:** Studies and research have shown that five years after graduating, doctoral students make, on average, regardless of streams, around \$94,000 per year, so you can see that, in the long term, there is some investment in the skills. They might not necessarily be using them directly in their research, but they have transferable skills and critical thinking skills in starting their start-up or working for a company. The long-term investment is there, and we see our students really having the benefit of learning in school while being a graduate student and then transferring that into the workforce. I think the country definitely needs to expand that, when we look at the unemployment and the labour shortage that we're experiencing.

**Hon. Helena Jaczek:** Thank you.

Dr. Andrade, another comment from a witness earlier today that I think was very appealing was how a particular research application leads to improving Canadian economic prosperity.

To what extent is that kind of criterion used in the evaluation of any particular funding by the tri-council, in your experience? Are you aware of such a need to look at potential economic prosperity?

**Prof. Maydianne Andrade:** I think it depends on the case the researcher makes in their area of study. There are some where you could draw a fairly direct line to economic benefits—for example, if you're an engineer, if you're patenting things that you're bringing to market or if you're talking about translational research. If you're talking about biomedical research, you can argue that by easing the disease burden in Canada, we'll be improving the economy as well. There are fields that are like that.

There are others, where there are incremental gains that aren't immediately obvious. To go back to the example of Dr. Karikó, that paper was published in 2005 and it was used in 2020. It's very hard, in any one short-term research project, to demonstrate economic advantage. If we gut that, the opportunity isn't there. I don't know what would have happened or how much longer it would have taken to get a vaccine against COVID if we hadn't had that paper from 2005.

**Hon. Helena Jaczek:** Thank you.

Do I have any time?

**The Chair:** You have half a minute.

**Hon. Helena Jaczek:** Ms. Joomun, have you, your students and the organizations thought about ensuring that there is some reference to potential future economic prosperity?

**Ms. Wasiimah Joomun:** Yes, of course. One statement I remember hearing some students say is that to find a solution for a problem tomorrow, you need to start doing research yesterday. I think this is the important part. Research doesn't happen overnight.



When we look at the multidisciplinary part of research, it doesn't just take one type of person; you need a whole ecosystem. When you look at the prosperity of the research ecosystem, the work.... As Dr. Andrade very nicely mentioned, something that was published in 2005 was being used in 2020. Let's say this was not published in 2005. Would we have gotten there?

I think it's about realizing and recognizing that the research ecosystem is more holistic and that it doesn't happen overnight. It takes years of work from different people around the table to get to where we want to be.

**The Chair:** Thank you.

Now we're going to turn to MP Blanchette-Joncas for six minutes.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** Thank you, Madam Chair.

Ms. Joomun, you said that you support the recommendation of the Advisory Panel on the Federal Research Support System, commonly called the Bouchard report, respecting support for francophone research and the equal treatment of funding applications submitted in French.

In the circumstances, what is CASA's position on the current funding criteria?

• (1730)

**Ms. Wasiimah Joomun:** With your permission, I'll answer the question in English.

[*English*]

When we are looking at the Bouchard report, we are looking at recommendation 21 and also at the committee's research around recommendation 17. Supporting the bilingualism part of research.... If someone is looking to conduct research in bilingualism, I think they should be incentivized to do that. That's a piece that we very much endorse and support.

Generally, I know that our partner, Union étudiante du Québec, is currently running its own campaign provincially around research for Quebec as well. One piece they keep on pushing is for research to happen in French.

We do support the recommendations brought forward by the committee on supporting students who are looking to do francophone research. The bilingual piece is definitely something we very much support at CASA. I was pretty pleased to see it in the committee's report.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** All right.

Would you propose any changes to the present criteria to make them more consistent with the specific needs of francophone researchers?

Do you have any suggestions regarding these matters?

**Ms. Wasiimah Joomun:** I don't really have any suggestions, but I think we should encourage international students who are on a

francophone track to come and conduct research in French in Canada.

Most of the researchers who come to study here normally study in English. I think we need to assess the situation a little more to urge researchers and students to conduct research in French in Canada.

**Mr. Maxime Blanchette-Joncas:** The data show that French-language content in science is in decline in Canada, regardless of discipline, and the situation is increasingly difficult in certain disciplines.

Would the Canadian Alliance of Student Associations be in favour of including, in the funding criteria mechanisms, incentives that promote knowledge development in French?

**Ms. Wasiimah Joomun:** We're going to support French-language research in co-operation with our partner. We want to support students who want to pursue their studies and research in French.

**Mr. Maxime Blanchette-Joncas:** Thank you.

Your alliance promotes equality of opportunity in accessing higher education. We know that the present funding criteria result in a concentration of funding; 80% of total research funding in Canada goes to only 20% of researchers. If only 20% of researchers are granted funding, that means that many researchers don't have an opportunity to develop and achieve their potential.

I'd like to hear your opinion on that subject.

What would you suggest doing to enable a larger pool of students to have access to funding?

Should we amend the criteria to ensure that everyone enjoys genuine equality of opportunity?

**Ms. Wasiimah Joomun:** If you don't mind, I'm going to answer that in English.

[*English*]

When we look at funding that a graduate student is looking for, there are two ways they can get that: through direct funding and indirect funding. One of them is through the Canada graduate scholarships, but we do see it through stipends or bursaries from institutions as well. We are not asking for more funding, but more so asking that we put conditions in there that institutions also put the money they are receiving back into the pockets of students.

How do we best utilize the funding that the government has put in budget 2024, which is already out there, and put it to better use? Currently, we see the direct funding going directly into the pockets of students, but I think it is also time to put conditions in place for institutions and universities to have some part of the funding they are getting from the federal government go directly to students in the form of apprenticeships or assistantships, as well as in the form of stipends to support the students to do that.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** Thank you very much.

Do you have any further suggestions, particularly concerning how to expand the range of students who could have access to higher learning?

I know that's part of your mission. It's also the theme of your *Advocacy Week*, and I congratulate you on that event. It was an opportunity for me to meet people from the Union étudiante du Québec, which is a member of CASA.

How could the funding criteria help develop more talent in Quebec and Canada?

[English]

**Ms. Wasiimah Joomun:** Thank you for the question, and thank you for the congratulations. It was a great week.

One thing we've been pushing for, as you know, is the indexation of these awards. We don't want to have another 20 years of not having extra funding for our students.

As I highlighted in my opening remarks, it's also important that we start training the highly qualified people to train other people. That's why we are asking the institutions to start training the students not only to do their research but also to train other people in the future. If we want to have a holistic approach to the investment being made in research, it's not just about the projects but also about the people, again, in terms of utilizing the professors and the laboratories to train the future workforce as well.

This is the part of the criteria piece that we are hoping to see—not just funding directly the student with dollars in pockets, which is great and we love to see it, but also incentivizing professors and laboratories to train the students working in them so that they are able to train future people as well.

• (1735)

**The Chair:** We'll now turn it over to MP Cannings for six minutes.

**Mr. Richard Cannings:** Thank you both for being here today.

I'd also like to congratulate you on your award, Dr. Andrade, but more than that, I want to thank you for your really powerful testimony in one of your previous appearances before this committee, about grad students and why we need to increase the funding for their scholarships and fellowships to get them out of poverty and keep Canada going forward in research excellence. I think we all appreciated that very much.

I'm going to start by asking you about training. The tri-council funding for research in Canada goes to labs that use students in universities, and training is an important part of that. Could you expand on that idea of the criteria used in those research grant applications that cover the training aspects and how important it is to have various criteria in that part of the grant?

**Prof. Maydianne Andrade:** Thanks for that question.

It's a pleasure to be here again. These are very important questions you're struggling with.

To connect what you just asked me to an earlier question about people sometimes perceiving they need to use buzzwords, that's because they haven't spent a lot of time thinking about substantive ways to address the criteria yet. It's because this is very new, I think, for people. If they use one of these phrases that trip off the tongue, they can build it into a nice sentence. However, it might be more useful to say.... I know that, in my field, women are severely

under-represented. A woman coming into my lab may be the only one. If she's a post-doc, she's likely to be in her child-bearing years. I have an upfront policy that says that if you have children, I recognize that you need to go home earlier than might have been typical 20 years ago, when you worked until the lights went off. That's the kind of thing I mean.

I've had colleagues ask me to look at their EDI HQP statements. They call them "EDI statements", but they're really training statements. Some of them, from white men who haven't had to think about this before—to speak about the elephant in the room—are very substantive. They have written down what they think are inclusive rules. They're very specific about them and why they're needed. It's not about buzzwords, though. It's actually about thinking about the kinds of people who might come to your lab and how you might help them do their best and be the best researcher possible when they leave your lab.

There is another element a lot of people touch on, which isn't related to what I think people are thinking of with respect to EDI buzzwords. When I started in the field—20, 30, 40 or however many years ago—you had to have, as a goal, being a professor. I'm speaking to my colleague here from the association of students. If you didn't say you wanted to be a professor, no one would spend any time on you. That is one of the elements that have changed substantively. Your highly qualified personnel training plan had better not assume that everyone is going to become a professor. It had better have all sorts of ways that you're going to connect people to industry and places where they can use their skills that are transferable.

I don't know if that gives you a feel for it. It's much more organic than people think. We're looking for meat. However, often, when we read these things, they're not meat because people haven't really dug into thinking about it yet.

**Mr. Richard Cannings:** Thank you.

Going back to some previous testimony at both this meeting and the last, we heard from witnesses who talked about a viewpoint bias in academia and universities. Basically, their concern is that there are too many progressive voters in university versus what we see outside academia.

I'm wondering if you could comment on why that might be and whether it's a good or a bad thing. Are self-selected people going into academia, or is it something academia forces on them?

• (1740)

**Prof. Maydianne Andrade:** I can't really speak to that directly because I don't talk politics at work. I'm a science nerd. Most of my colleagues are, too. We dig into the science we're doing, and I don't see how my politics really affect that.

I have to say that, as a Black woman, I want everyone to feel free to come to work. However, I don't want to be subject to violations of my human rights at work. There's a line, and Canadians are pretty good at walking that line, I think. We have hate language regulations, but we also allow a lot of flexibility. At my institution, they're now having whole sessions on how to have civil conversations about challenging issues. Outside of politics, there are a lot of differences of opinion on just about everything. People will fight tooth and nail about some small element of a scientific theory.

I don't see the same thing my colleagues are talking about. I don't know if that's because people don't speak about these things when I'm in the room, but I would welcome the conversation. The other side of my life is talking to people about inclusive practices in academia. We very much go to people where they are and want them to engage with us in a very earnest way.

**Mr. Richard Cannings:** How much time do I have?

**The Chair:** That's the time.

**Mr. Richard Cannings:** Okay.

**The Chair:** Thank you.

Now we will start our five-minute round with MP Ben Lobb.

**Mr. Ben Lobb (Huron—Bruce, CPC):** Thank you.

Professor Andrade and Ms. Joomun, welcome.

You were here when Professor Horsman was presenting his information. Do you have any thoughts on what he was presenting today at the committee?

**Prof. Maydianne Andrade:** I'm sorry. I missed the very beginning of that.

**Ms. Wasiimah Joomun:** Okay. I'll take that one and then pass it to you.

I think that, just in general, when we've been talking to students and also to future graduates in the country, they wanted to highlight that even the Canada research coordinating committee highlights that research consistently shows that a diverse research workforce is critical for driving the excellence and innovation of the country.

For instance, if we are looking at the biomedical fields, if we are looking at finding a vaccine for an infectious disease, the way it impacts people of colour is very different from its impacts on different people of colour.

**Mr. Ben Lobb:** Are you indifferent to what he was saying? Do you think he's out to lunch or that he might be right, or do you not want to say?

**Ms. Wasiimah Joomun:** Just in general, I think supporting EDI within the tri-council agency and the criteria is very significant if we want to advance the diverse perspectives of people.

**Mr. Ben Lobb:** Okay.

Dr. Andrade, do you want to touch on that, or do you want to leave it?

**Prof. Maydianne Andrade:** I'm happy to touch on that.

Again, I want to acknowledge that whenever you start something new, there are challenges. I think that one of the challenges is that

some people haven't dug into this in a way that allows them to understand what's being asked, and the result of that is buzzwords. There are also people who, as in any system, exploit the fact that there's suddenly this new range of things that people are supposed to be able to understand, and they don't necessarily always understand it.

When I hear, for example, that EDI training doesn't work.... I don't think training ever works, but I think most people like to learn about something new when it's relevant to their context. How that plays out depends on how good the training is. Some people go to university and don't learn very much. That doesn't mean university doesn't work. It works for some people. It doesn't work for others.

**Mr. Ben Lobb:** Boy, the HR department would sure be disappointed that training doesn't work, but we won't tell them that.

**Voices:** Oh, oh!

**Mr. Ben Lobb:** I have another question here. Answer it or don't answer it. It's your choice.

We were talking about the impact of the criteria, and this is a famous one. I'm sure you've read it. It's from the University of Waterloo. It's the NSERC grant for computer science. We're talking about computer science: "Position 1, all areas of artificial intelligence. The call is open only to qualified individuals who self-identify as women, transgender, gender-fluid, non-binary, or Two-spirit."

What do you think of that?

**Ms. Wasiimah Joomun:** I would say that when we look at research traditionally, women and diverse people were excluded at the beginning, so the issue—

• (1745)

**Mr. Ben Lobb:** Then it's fair now to exclude everybody else. Is that what you're saying?

**Ms. Wasiimah Joomun:** That is not what I'm saying. It's just that there are some ways.... To have these types of people around the table, maybe we need to start having programs that kind of loop them in. I'm not saying that we need to exclude people. It's about having more of an equity base in having those people looped in and also just recognizing that when we look at people who are receiving the grants and funding from the government, most of them tend to be men, compared to women.

**Mr. Ben Lobb:** Dr. Andrade, do you want to comment on that? You don't have to. I'm just curious to know if you wanted to comment on that position.

**Prof. Maydianne Andrade:** I would like to comment, actually. I have a couple of things.

One is that, particularly in AI, actually having gender-diverse people doing AI is really important. We know there are biases built into those systems that are likely, because the viewpoints of the people creating those systems were from a very narrow part of society. In particular for that area, I can understand that.

The other thing, just to reinforce what my colleague has just said, is that there are data that suggest that people are being filtered out early. There's one particularly good study from the University of British Columbia done by a vice-dean there. What they showed was that if you look at the pool of applicants versus who gets on the short list, and versus who gets invited for an interview and gets hired from the short list, racialized people drop out of the bucket, but if they get invited, they get hired.

What they did, then, was actually—

**Mr. Ben Lobb:** You're making a good point here.

I can remember from an earlier study we did that we had a research professor talking about the professors doing the hiring. Isn't it the professors who do the hiring for these?

**Prof. Maydianne Andrade:** Yes, 100%, so the problem is they don't recognize the bias.

**Mr. Ben Lobb:** A lot of people, everyday Canadians, would think, wow, these people at these universities are so enlightened and so great, but are they all a bunch of racist white men running these job selections? All our guests come here and it sounds like it's all these racist white men running these universities, and the universities don't fire them. What's going on here in our universities? Do we need to defund our universities? What's going on here?

**Prof. Maydianne Andrade:** You know what I'm going to say to that, but let me just say this. It's not an "us" and "them", actually, believe it or not. One of the reasons I started doing this work... For years, I experienced things as a Black woman that I didn't know were because I was a Black woman, until I married a white man, and they said, "What?" Then I realized it was related to my identity.

I went to all these sessions that talked about things that happened to racialized people, and it was all about lived experience. As a scientist, it did not convince me. What convinced me was the literature. The literature shows, experimentally, that if you think someone is a Black woman, you judge the same stuff really differently.

I have that same problem. I did an implicit association test, which tests whether you associate certain things with certain racialized groups. I have a mild to moderate tendency to associate positive things with whiteness and negative things with Blackness. I grew up in suburban Vancouver. The only Black kids I knew were my family members.

It's the media. It's not evil people twirling their mustaches in the bushes. It's not just white men. It's everyone. It's society. That's why we need to put up acknowledgements that this stuff exists, that it happens and that we can have processes that make sure it doesn't influence our decision-making.

**Mr. Ben Lobb:** I appreciate your honest answers.

**The Chair:** Thank you very much. It was excellent to hear that.

Now we're going to turn to MP Kelloway for five minutes, please.

**Mr. Mike Kelloway (Cape Breton—Canso, Lib.):** Thank you so much, Chair.

Thank you to the witnesses for being here.

Dr. Andrade, let me echo the chorus of congratulations on your award.

Have both of you been watching the testimony recently? Okay, so you get a sense of some of the diverse opinions that have been brought to the table in terms of what is seemingly, unfortunately, becoming a right-wing or a left-wing thing.

I want to go back to the social sciences. I have a background in the.... I'm not a researcher, but I worked at a university and worked at a community college. I totally believe that we need to invest more in applied research in relation to industry. I wonder if we can touch a little, right now, on the social sciences. We heard some folks, through their testimony, and some members of this committee really question the importance of the social sciences. I want to hear from both of you in terms of why the social sciences are important.

For example, if we look at a list of studies.... My colleagues across the way have done so. They've brought up unpaid work in Bogotá or something in relation to Dolly Parton and how that relates to Canada if it's funded by the federal government. I'm wondering if you can unpack, though, in all seriousness, the importance of the social sciences. In particular, it was mentioned that 81% of people with a Ph.D. go into the workforce outside of the university.

Dr. Andrade, I'll go to you first, and then we'll go to Ms. Joomun.

● (1750)

**Prof. Maydianne Andrade:** Sure. I may be one of the rare natural scientists who.... I've been reading the social science literature since 2013, when I first started recognizing some of these things were happening.

The social sciences are essential to everything we do. Interdisciplinary research is where things move. Scientists can build things or create things. Is the public going to use them? We don't know, unless we have social scientists working on our team. How do we convince people in under-represented communities that we need their genes for a genomics database that allows personalized medicine? We need social scientists to ask what the history is of what's gone on in that community and how we can get them to trust us in a genuine sort of a way.

I think social science is critically important to all the big problems that we're trying to solve right now. We do have to work across fields. Interdisciplinary research is essential. I agree with my colleagues who spoke earlier about that.

**Mr. Mike Kelloway:** Thank you very much.

Ms. Joomun.

**Ms. Wasiimah Joomun:** I would echo what Dr. Andrade mentioned. When we look at the multidisciplinary and the interdisciplinary side of it, you need everyone around the table. You need not only the scientist who is making the thing in the lab, but also the people who are able to sell it to Canadians.

Again, when we look at doctoral graduates and how much they make, regardless of discipline, they make, on average, \$95,000. Therefore, they are contributing, and they end up working in the workforce, similar to their peers who are not in the social sciences. It's looking at, again, the holistic approach and the interdisciplinary part. It takes more than one person when it comes to research. It's not just the people in the lab, but also the people outside the lab who connect with the community as well.

**Mr. Mike Kelloway:** Thank you, both of you.

The testimony we've heard the last couple of days, again, has been diverse. Some of it I disagree with, but I think that, in some ways, to a certain degree, it's important to have all of those voices heard. It got me thinking, the past couple of nights, about when I graduated from the University of Calgary with my master's and did a final thesis. The instructors and the professors at the University of Calgary certainly had a particular political viewpoint. I was one of probably 30 students in the program. I was the only Atlantic Canadian. However, they never, ever let that reflect in the research I was doing with them in terms of my research paper. I think there's something to be learned from that, hopefully.

I'm sorry. Some people are over there talking, so maybe they would like to have their sidebar somewhere else.

One of the comments lately—a couple of days ago, I think—was from an individual who was basically devaluing aboriginal research as compared to western science. I'm wondering whether, in the last couple of seconds, you can speak to, perhaps, your opinion on that.

We'll start with Dr. Andrade and then go to Ms. Joomun. We only have a few moments left.

**Prof. Maydianne Andrade:** I'll admit that I have a lot to learn there. There are deep histories of peoples who are connected to the land. I'm an ecology and evolution biologist. The type of oral history that's been passed down about changes in ecology and about organisms, for example, like bears or eagles, looking at how many eggs they have to tell what sort of year it's going to be.... These are valuable data. Understanding that kind of connection to land is important. I, myself, haven't gone there yet, but I'm looking forward to learning more about it.

**The Chair:** Thank you. That's your time.

Now we'll turn the floor over to MP Blanchette-Joncas for two and a half minutes, please.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** Thank you, Madam Chair.

Ms. Joomun, in our last study on the distribution of federal government funding among Canada's post-secondary institutions, which was tabled in the House today, and which I invite all of you to read, we found that the funding of francophone institutions has been inadequate, relative to the weight of their teaching staff, for the past 20 years.

In the claims you make, you emphasize how important it is to remove economic obstacles to access to higher education, more particularly in order to support research.

How could francophone students and researchers, particularly those from less favoured regions, benefit from a review of funding criteria, criteria that currently tend to favour large urban anglophone universities?

[*English*]

**Ms. Wasiimah Joomun:** I do agree with you in terms of the lack of funding for French or francophone institutions. That's why we have the partnership with l'Union étudiante du Québec. Most of our francophone institutions tend to be centred around Quebec, although there are multiple across the country as well. I know that our partners are currently running their campaign in terms of seeing how the provincial government can also match that and support that, because currently we are playing catch-up on investment that hasn't happened for the last 20 years.

It's about how we can provincially, as well, support that, and it's also about federally having criteria that will ensure that francophone students who are qualified and who have the merit to get that federal funding are able to access that.

• (1755)

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** Thank you.

Would you have any further recommendations to make concerning the regrettable, even unacceptable, situation in which francophone institutions have found themselves in the past 20 years?

**Ms. Wasiimah Joomun:** I don't have any for the moment, but I can send you a few.

**Mr. Maxime Blanchette-Joncas:** We would greatly appreciate that.

[*English*]

**The Chair:** Thank you.

Now we'll turn to Mr. Cannings for two and a half minutes, please.

**Mr. Richard Cannings:** Thank you.

I'm just going to turn back to Dr. Andrade and get back to the criteria used in funding research, specifically the traditional impact and output criteria that have caused this kind of runaway freight train with regard to the massive output, the numbers of scientific papers.

I think you touched on DORA, the San Francisco Declaration on Research Assessment. That's been presumably taken up by the tri-council. I'm just wondering, from your experience at NSERC, how that is being used and whether it is having any effect. What more do we need to do to get this under control and use better criteria?

**Prof. Maydianne Andrade:** Thanks for that question.

I think we have to encourage more universities to formally sign off on DORA. To be honest, one of the first things I did as vice-dean was create guidelines for the assessment of excellence in teaching, which is different from research. However, it's the same idea. How do you assess excellence? What we did was build in as much flexibility as possible. You are making a case based on what you claim your impact is.

We need to get much closer to doing that with research in general. I think the tri-council shifting to the narrative CV is a critical part of that. There's going to be a lot of groaning about it—the idea that you are going to feature your high-impact work and explain why it's high-impact. Your colleagues have to actually engage with that and try to understand it. This is absolutely where we need to go in every assessment we do.

It's also very important as we start hiring more researchers doing community-engaged work and trying to positively affect things—especially in rural communities, say, where that impact might take a long time. They need to explain what they have done and how that impact is going to happen down the road. You just can't measure that in publication numbers, but it's critically important.

**Mr. Richard Cannings:** Is there a problem right now with the volume of papers, in terms of finding good reviewers for those papers? It seems researchers spend more time reviewing papers and writing grant applications than doing good science.

**Prof. Maydianne Andrade:** It's a huge problem. We see it with the Killam prizes and the Dorothy Killam fellowships. National Research Council staff run that program. Thousands and thousands of requests go out. They get about a third, or fewer, positive responses. It's a huge amount of effort.

One of the reasons why I think the proportion of high-impact, disruptive papers is going down is that, in the old days, if you had a high-impact thing, it went in Nature or Science. There were two journals. Now there are way too many journals. It's just the proliferation. It's no longer a signal if you have a paper in Nature or Science, because you could be on social media, advertise your awesome paper in The Journal of Immunology and get just as much impact.

It's a whole different way of thinking about things, but we have to get with where the world is now.

**The Chair:** Thank you so much. That's our time.

I want to thank both of our witnesses today. That was wonderful.

I believe, Ms. Joomun, that you're going to submit something additional for MP Blanchette-Joncas.

Dr. Andrade, I wish so much you'd been here in person. It's good to see you again. I know how, that night at the Shaw Centre, the whole room was very excited about your award. It was so well deserved.

Thank you both for joining us today and for participating in our committee's study. If you have any additional information, you may submit it through the clerk.

The committee is scheduled to meet again next Tuesday, December 10.

Is it the will of the committee to adjourn the meeting?

**Some hon. members:** Agreed.

**The Chair:** The meeting is adjourned.

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