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Chair: The Honourable Kirsty Duncan





## Standing Committee on Science and Research

Thursday, May 12, 2022

• (1830)

[English]

**The Chair (Hon. Kirsty Duncan (Etobicoke North, Lib.)):** I call this meeting to order. Welcome, everyone.

We are meeting in a webcast session.

[Translation]

Welcome to meeting number 12 of the Standing Committee on Science and Research.

[English]

We're happy tonight to welcome Ms. Vignola, as well as Madame Lapointe.

The Board of Internal Economy requires that committees adhere to the following health protocols, which are in effect until June 23, 2022: All individuals wishing to enter the parliamentary precinct must be fully vaccinated against COVID-19, and all those attending in person must wear a mask, except for members who are at their place during proceedings.

Please contact our clerk for further information on preventive measures for health and safety.

As the chair, I thank you for always adhering to these measures, because I will enforce them.

[Translation]

Today's meeting is taking place in a hybrid format pursuant to the House order of November 25, 2021.

[English]

I'd like to outline a few rules to follow.

Interpretation services are available for this meeting. You may speak in the official language of your choice. At the bottom of your screen, you may choose to hear floor audio, or English or French.

[Translation]

I remind you that all comments should be addressed through the chair.

[English]

When you're not speaking, your microphone should be muted. The clerk and I will maintain a speaking order.

To all our witnesses, welcome.

This is about top talent, research and innovation. Tonight we're very pleased to welcome, from the Canadian Association of University Teachers, David Robinson, executive director; from the Perimeter Institute for Theoretical Physics, Dr. Robert Myers, director; and from Polytechnics Canada, Ms. Sarah Watts-Rynard, chief executive officer, and Mr. Devon Blaskevitch, policy analyst. Welcome.

Each group will have five minutes. At the four-and-a-half-minute mark, I will hold up a yellow card and you will know that you have 30 seconds left.

We will begin. Again, welcome to our witnesses.

We'll begin with the Canadian Association of University Teachers. Mr. Robinson, the floor is yours for five minutes.

**Mr. David Robinson (Executive Director, Canadian Association of University Teachers):** Good evening, and thank you.

I would like to begin by acknowledging that I am joining you this evening from the unceded and traditional territory of the Algonquin people.

I'm very grateful for the invitation to be here tonight on behalf of the Canadian Association of University Teachers. We represent 72,000 faculty, academic librarians and professional staff at more than 120 post-secondary institutions in all provinces across the country.

As an organization, we're uniquely positioned to comment on the issue of the recruitment and retention of researchers and scientists in Canada because our members are scientists and researchers themselves. They're also the teachers and instructors training the next generation of researchers and scientists.

As everyone on the committee knows, it is the higher education sector that does much of the heavy lifting when it comes to Canada's gross domestic expenditures on research and development, and this is a strength we can build on.

The investments we make in university and college research equips us to better understand the social and natural world in which we live so that we can tackle the many social, environmental, economic and public health challenges we face. We can spur innovation and enhance the quality of life for all Canadians.

In budget 2018, the government made significant investments to boost basic research funding, but there remains more distance to go to close the gap identified by the government's expert panel on fundamental science. To continue to attract and retain academic research talent, we need to continue to invest in basic university research, because this is vital for scientific advancement that leads to innovation.

While quick-to-market applications of science are appealing in the short term, fundamental world-changing science and innovation are rarely predictable and most often emerge from longer-term and fundamental discoveries driven by scientific curiosity.

Think of the 19th century Irish physicist John Tyndall, who asked the question, "Why is the sky blue?" That simple question led Tyndall to the discovery of basic properties of light that paved the way eventually for the development of lasers and other innovations. More recently, think of the basic science that underpins the mRNA vaccine platform, or the discovery of properties of magnetism that was necessary to develop MRIs.

We have a strong foundation in the higher education sector, but there are cracks emerging that I want to focus on. One of the biggest is related to the ongoing shift toward precarious employment at our post-secondary institutions.

As you've heard from others, full-time tenure-track academic employment provides the necessary stability needed for longer-term academic research. However, by our estimates, more than a third of academic staff, who are also highly educated researchers, are now employed on short-term teaching-only contracts. Because it's teaching only, it means their research potential is largely untapped, and even if they want to pursue research on their own time, obstacles remain. Without tenure or a tenure-track appointment, it's difficult, if not impossible, for contract academic staff to secure research grants through the federal funding agencies. Facing this uncertainty, many contract staff may abandon research altogether. Graduate students may question the attractiveness of the profession.

Finally, I'd like to emphasize that we need good-quality data about the entire academic staff workforce to fully understand its composition and challenges. Right now, Statistics Canada's university and college academic staff system survey, a survey that collects data on academics and Canada's research talent in universities, currently does not capture any information for contract academic staff, those working at colleges or any employment equity data beyond gender. Without this data, we simply don't know about the full composition of our academic research community, or what barriers may exist that prevent the full participation of all. Expanding this survey would greatly assist us in understanding the academic research workforce, how to better support our researchers and how best to harness their potential.

In conclusion, I want to reiterate that the higher education sector is essential to Canada's research future. Compared to other OECD countries, it is our strength that we need to build on. We must ensure that academic researchers, those in early career stages or those who are already established, are afforded decent working conditions, job security and equitable opportunities. These are essential if we are to attract and retain research talent. The federal government can play an important role in building upon this strength and founda-

tion with clear action and support for academic researchers and for basic science.

• (1835)

Thank you.

**The Chair:** Thank you so very much, Mr. Robinson. We appreciate your being here.

We will now go to the Perimeter Institute for Theoretical Physics, and we'll be hearing from Dr. Myers for five minutes, please.

Dr. Myers, should we come back to you? You'd like us to come back. We will do that, sir.

With that, if it's okay with Polytechnics Canada, we will hear from you for five minutes, please.

The floor is yours.

• (1840)

**Ms. Sarah Watts-Rynard (Chief Executive Officer, Polytechnics Canada):** Thank you very much.

Good evening, Madam Chair and honourable members. I appreciate the opportunity to address you as part of this important study on how best to attract and retain science and research talent in Canada's post-secondary institutions.

I'm the CEO at Polytechnics Canada, a not-for-profit association representing 13 research-intensive, publicly funded polytechnics and institutes of technology. Collectively, our members provide education and training to more than 370,000 learners each year. Polytechnic institutions across Canada mobilize state-of-the-art facilities, equipment and expertise to deliver solutions to partners across industrial and social sectors, always in partnership and often with the help of student talent. As a result, institutions have a flexible and agile applied research infrastructure that adapts to the unique requirements of a partner and their project.

To give you some context, last year, polytechnics conducted more than 3,700 applied research projects with 2,600 industry partners. More than 23,000 students contributed to these projects, which included the development of more than 3,300 prototypes. Member institutions deployed nearly \$39 million in federal funding and leveraged another \$61.9 million from other sources. This essentially means they were able to secure \$1.58 for every \$1.00 that was invested by the federal government.

When it comes to attracting and retaining research talent, it is important to understand how polytechnics and colleges differ from their university colleagues. Research is largely undertaken by expert faculty who bring industry experience to their teaching careers. Research is not built into the formula of an instructor's time; it is absolutely extracurricular. This can pose real challenges, because academics who participate in applied research need to be backfilled in the classroom.

Attracting and retaining research talent comes with some fundamental challenges. Less than 5% of all federal investments in post-secondary research are allocated to this sector. If you're a researcher, this balance of funding sends a pretty clear message that you should go elsewhere, yet the type of research required by Canada's private sector—projects that support prototype development, commercialization, productivity improvements and job creation—is desperately needed. This calls for a rebalancing of funding formulas.

Applied research projects take a special kind of talent. They're people who understand industry challenges and develop pragmatic solutions in partnership, yet polytechnics do this work in a funding environment that's stacked against them. For example, while the college sector is technically eligible under the Canadian research chair program, allocations are based on funding received from tri-councils in the previous year. The college and community innovation program, which is the major and often only source of federal research funding, is excluded from this calculation.

The evaluation of Canada research chair applications is built around a history of publications and participation in peer review committees, but neither is an outcome associated with college applied research. Further, the peer review process inherently favours university researchers. When we've looked at why our members are successful in competitions, we've found that at least one member of the application review committee had a college affiliation, so populating those research review committees with individuals with knowledge of the polytechnic and college sector space is essential to ensuring equitable participation.

With challenges like that in mind, I have three broad recommendations for your consideration.

The first is appropriate funding that needs to be available to support polytechnic applied research. The ecosystem is under dire financial pressure. For example, the COVID rapid response grant for colleges was unable to support 71% of eligible projects, leaving 164 partners behind. While the number of partners on applications under the college and community innovation program has steadily increased since 2016, it hasn't kept up. In 2020, 715 partners could not be accommodated due to grant constraints.

Second, the peer review process must be adjusted to ensure the inclusion of people who have a solid understanding of polytechnic and college applied research.

• (1845)

Finally, it's time to end the exemption across tri-council funding formulas of the college and community innovation program. Now well past its pilot phase, this program has become integral to delivering private sector innovation, and its exclusion has pushed poly-

technics and colleges to the periphery of the research ecosystem. I would say that's not a great place from which to attract top talent—

**The Chair:** Ms. Watts-Rynard, I'm sorry. I gave you a little bit of extra time so you could get your recommendations in.

Thank you.

**Ms. Sarah Watts-Rynard:** Thank you.

**The Chair:** We will now go to Dr. Myers. We hope this goes well.

**Dr. Robert Myers (Director, Perimeter Institute for Theoretical Physics):** My apologies for what happened earlier. I'm not sure what happened.

In any event, my name is Rob Myers. I'm the director of the Perimeter Institute for Theoretical Physics here in Waterloo, Ontario.

I'd like to start by thanking the committee for the important work you're doing in helping to shape Canada's future.

Here's a bit about Perimeter. We're an independent, non-profit research centre that's supported by a public-private partnership. We're not funded like universities. We're not eligible for most granting council programs.

While I have no particular ask today, I do agree with past witnesses who've shared the need for stable and continuing support for Canada's research community and in particular for our talent pipelines.

Perimeter has a single focus, which is to pursue breakthroughs in our understanding of the universe. Such breakthroughs are vital. One major discovery in physics can have profound long-term ramifications for all of science and technology, but it's a long game.

Currently at Perimeter we're the home to 25 permanent faculty, 22 faculty who are part time and appointed with nearby universities, over 50 post-doctoral researchers and about 80 graduate students registered with nearby universities. When we think about recruitment, we think about recruitment at all of those levels. As you've heard, it's getting harder and harder to recruit talent for Canadian research organizations, so I want to share some thoughts on our approach.

Talent attraction is not just about a competitive salary, although that's important. Part of the strategy we take is calculated risks on unusual thinkers. We look for bold researchers who are brilliant, ambitious and adventurous. Most of them have multiple offers, so we need to provide something special. To attract them, we provide opportunities and experiences to maximize their potential: no teaching requirements, a collaborative atmosphere, freedom from the publish-or-perish treadmill, great administrative services and the flexibility to capitalize on new research opportunities. I must add that brilliant people want to work with other brilliant people. There's a strong cluster effect here at the institute and throughout "Quantum Valley" in the Waterloo region.

Let's look at some examples. On the first slide, we see the image just unveiled this morning of Sagittarius A\*, the black hole at the centre of our own galaxy. It's a very challenging picture to take, and Perimeter's Avery Broderick was instrumental in this effort. Avery, who's cross-appointed at the University of Waterloo, was attracted here because of the support we could offer in the form of a research community, computing resources and resources for students and post-docs. In turn, Avery has given Canada a share in historic scientific achievements. That, in turn, helps us attract more talent.

On slide number two we see Kendrick Smith. Kendrick doesn't fit the usual categories that a university might look for; however, at Perimeter, he found the freedom to combine his talents in theoretical research, software engineering and data analysis. His software innovations have transformed Canada's giant telescope into a global leader in radio astronomy. Interestingly, the same software that Kendrick developed is now used to stress-test computer chips for a large manufacturer.

The last emblem that you see in the bottom corner is to remind me that, also during the pandemic, Kendrick applied his skills in collaboration with the medical community to develop a software package that helps us track COVID mutations.

Moving to slide three, we see Estelle Inack, originally from Cameroon. She chose Canada over a very lucrative position with a U.S. tech giant. She came here because she wanted to pursue her ideas with Canadian Roger Melko, who leads the Perimeter Institute Quantum Intelligence Lab. Today she's not only a top researcher who is producing innovative new machine learning algorithms, but she's also founded a start-up in Toronto based on her research.

These are just three people whom we've been able to recruit.

In closing, I just want to note that although I started by talking about the long game, it's interesting how that strategy has short-term payoffs, which I've tried to illustrate with these examples.

Thank you.

• (1850)

**The Chair:** Thank you so much, Dr. Myers.

We appreciate the time and effort from all our witnesses. I know that our members are eager to ask you questions. With that, we're going to go to our members.

We will begin with a six-minute round. We start with Mr. Williams tonight.

**Mr. Ryan Williams (Bay of Quinte, CPC):** Thank you very much, Madam Chair, and thank you to all our witnesses. It's always very exciting and very interesting to see everyone here.

I'll start with Polytechnics Canada.

Good evening, Sarah. It's good to see you. I enjoyed meeting with Cody and Devon back in March.

You had some great statistics about how we can best support research and innovation in our post-secondary institutions, and I believe we should look no further than our colleges and polytechnics. It's incredible to see the numbers you've presented—

**The Chair:** I'm sorry to interrupt, Mr. Williams. We're having translation issues.

**Mr. Ryan Williams:** No problem—

**The Chair:** My apologies.

Can we check that we have translation, please?

**A voice:** It's all good.

**The Chair:** All good, Mr. Williams. The floor is yours.

**Mr. Ryan Williams:** No problem, Madam Chair. Thank you very much.

With less than 5% of all federal research grants, colleges manage to produce significant economic and innovative results. Do you know what amounts you're looking for to increase funding if we're looking at it? Can you maintain the same ratio of the return on investment if you do get that funding?

**Ms. Sarah Watts-Rynard:** Well, what I would say to you is that based on our conversations with NSERC and the college and community innovation fund, roughly 30% of all the proposals that are put forward by the college and polytechnic community are successful, so that's another 70% of projects that are being put forward that are not successful, not because they're not good projects, but because there are insufficient funds.

I would suggest to you that we could look at an increase that would at least encompass that range of projects and opportunities that the colleges have brought forward before we ran out of space, opportunity and bandwidth to do so.

**Mr. Ryan Williams:** Thank you so very much.

Do you have enough talent? What's happening right now with your talent? How can you add talent to add to the funding if you were to have an increase?

**Ms. Sarah Watts-Rynard:** I think it's important to recognize that the people who are undertaking projects within the college and polytechnic system are faculty members and students within the system. Really, there is no limit to the talent. It's what's available in every faculty in every part of the institutions and within the student community. I don't think—

**Mr. Ryan Williams:** That's good. I'm so sorry, Sarah. I only have so much time to ask so many questions. This is the way it happens, but thank you.

Through you, Madam Chair, I know that you engage with many SMEs, Sarah. You had a number across Canada that you gave before. Where are they short on talent right now? In terms of having new projects and prototypes developed, where are the SMEs short of talent and what can we do to fix it?

**Ms. Sarah Watts-Rynard:** What we're hearing and what our members are hearing from the small and medium-sized businesses they're working with is that they're short on talent in all areas. There's not just one. I would think that it would be dependent on the sector, but certainly what we've been hearing across the board is that it's all talent—

**Mr. Ryan Williams:** Thank you so much.

The University of Waterloo previously told this committee that 75% of their software engineer grads are leaving for the U.S. Do you see the same thing with polytechnics and colleges across Canada? Are we losing graduates to the U.S.?

**Ms. Sarah Watts-Rynard:** No. For the most part, my understanding is that while a portion of the graduates do go on to careers in other parts of the world, the majority of college and polytechnic graduates are being developed for the local labour market and they're staying in the local labour market.

• (1855)

**Mr. Ryan Williams:** Thank you.

This committee has heard that commercialization is a valley of death that our universities have a great deal of trouble bridging. Do colleges and polytechnics face the same challenges?

**Ms. Sarah Watts-Rynard:** They don't face the same challenges because the challenges they are addressing are the ones directly brought to them by businesses that have commercialization challenges, and those are then solved for those businesses. The intellectual property remains with the business.

**Mr. Ryan Williams:** Thank you.

I'm going to ask a general question. What are the benefits of applied research versus more traditional research methods?

**Ms. Sarah Watts-Rynard:** I would say that the major benefit of applied research is that it is responsive to industry. It's responsive to the partners who come to the table. Therefore, it's very pragmatic and it really responds to those commercialization of prototype needs, some of the basic challenges in business, whereas more foundational research is more fundamental, a little bit more exploratory.

I wouldn't say one is better than the other. I would say they're both important. It's just that the funding is currently balanced a lot more on foundational research than it is on applied.

**Mr. Ryan Williams:** Thank you.

Madam Chair, if I run out of time, I'll ask you, Sarah, to submit this in writing. You have a few seconds left.

I know you talked about ending the tri-council exemption of the college and community innovation program, the CCIP. I know you've recommended some changes. Would you have any other recommendations that you haven't mentioned? Second, do you need another source of funding besides the CCIP?

**Ms. Sarah Watts-Rynard:** What concerns me about sources of funding other than CCIP is the way the peer review is set up. Even if polytechnics and colleges are eligible, they're not always able to benefit because of the way the peer review process and the eligibility happen in practice. I would say that yes, we need more than CCIP, but CCIP is one of the places where colleges and polytechnics are eligible, and right now get the vast majority of their funding. It's stacked in favour of that—

**The Chair:** Thank you, Ms. Watts-Rynard.

Mr. Williams, do you want that in writing, just to be clear?

**Mr. Ryan Williams:** Yes, please.

Sarah, please submit it in writing and we'll make sure it's included in the report. Thank you very much.

**The Chair:** Thank you both.

**Ms. Sarah Watts-Rynard:** Thank you.

**The Chair:** Now we will be going to Ms. Bradford for six minutes.

**Ms. Valerie Bradford (Kitchener South—Hespeler, Lib.):** Thank you so much.

Thank you to our witnesses for joining us tonight. I'll be directing my questions primarily to Mr. Myers.

Thank you for coming back. I know that you did participate in our first study. We're anxious to hear from you with respect to talent attraction and recruitment.

Perimeter is a unique research environment and you have a unique approach. You stress that you aim for long-term breakthroughs, but you also contribute to near-term competitiveness in Canada. Can you elaborate on that?

**Dr. Robert Myers:** Sure. We are really a resource, in many respects, for the country—or I feel we are. If we start on the side of academia, I mentioned the joint appointments that we make with nearby universities to try to draw talented researchers into the university system here. We also have affiliate memberships, with a standing invitation for Canadian faculty interested in our research areas to come to visit and participate in the activities here. We've really seen a knock-on effect in the Waterloo region. Many young talented people come here now because they've heard about Perimeter and the exciting research.

On the more practical side, it's also true that we're grooming talent with rare or mathematical and problem-solving skills that are very highly valued by the private sector. There are various ways in which we've seen our contribution flow out. Many of the young trainees here actually go on into the private sector in Canada and contribute to the economy by starting their own companies. We have trainees who have gone on to Scotiabank, RBC and BMO, or to start-ups like Desire2Learn and Xanadu. We're really grooming people with a skill set that has broad application outside of theoretical physics.

- (1900)

**Ms. Valerie Bradford:** Okay. Thank you.

**Dr. Robert Myers:** We actually try to encourage that by exposing the trainees here at Perimeter to the opportunities that lie outside of academia. This takes the form of workshops and presentations by industry leaders, just so that they have an idea of what the possibilities are beyond the confines of the theoretical research we do.

I talked about the Perimeter Institute Quantum Intelligence Lab, which is a unique setting where, in fact, we have a Canadian start-up, IQbit. Our researchers are motivated by fundamental questions, but in that case they're really playing in the same sandbox with ideas that have direct commercial application, so IQbit employees are sitting next to our researchers and are able to share ideas and work together, in some cases, with students or post-docs to produce interesting and practical results.

**Ms. Valerie Bradford:** Talent comes from all genders and backgrounds. I want to ask what we can learn about Perimeter's approach to advancing women and under-represented groups.

**Dr. Robert Myers:** That's a big topic. It's a strategic direction that we're trying to advance.

We've had successes with outreach to high school students. At the master's level, we've reached gender parity in our all of our programs. It's fair to say that with more senior levels at the faculty level, we have much more work to do.

We also have various programs, like the Emmy Noether fellows program. We designed it to support early-career faculty members and researchers in their careers. That also has a spinoff effect. We recently recruited Katie Mack, who is an outstanding cosmologist and science communicator from the United States. She's come here and now holds the Hawking chair at the Perimeter Institute.

In fact, we have a grassroots effort called the PI inclusive platform that is working to advance inclusion, diversity, accessibility

and equity across the entire spectrum of our efforts and activities here.

One last note is that at the board level, we currently have a board of seven members, and five are women. Our board is well ahead of the curve and a good role model for our faculty members.

**Ms. Valerie Bradford:** That's great. I'm sure your board is better for it.

I have time for maybe one quick short answer here.

In terms of international talent and science diplomacy, some universities in Canada are currently looking to recruit talent from Ukraine, which has been disrupted by war. Is Perimeter part of that effort?

**Dr. Robert Myers:** We have an effort going on. I would say it's not to recruit, but rather to support Ukrainian scientists, and in fact all researchers who have been affected by the war. In particular, we're working at the level of post-docs and graduate students, trying to identify talent and provide them with a safe haven—

**The Chair:** Dr. Myers, I'm sorry to interrupt.

Ms. Bradford, would you perhaps like a written answer on that?

**Ms. Valerie Bradford:** Yes. Maybe you could finish it off in writing. Thank you.

**The Chair:** We'd like a written answer, if you could, Dr. Myers.

**Dr. Robert Myers:** I'd be happy to do that. Thank you.

**The Chair:** Thank you.

Ms. Vignola, we're so happy that you're joining us. The floor is yours for six minutes.

[*Translation*]

**Mrs. Julie Vignola (Beauport—Limoilou, BQ):** Thank you very much, Madam Chair.

My first questions will be for Mr. Robinson.

Mr. Robinson, in the latest report from the Canadian Association of University Teachers, CAUT, you said the following concerning posts-pandemic recovery:

If “normal” means a return to an increasing erosion of the academic job in favour of precarious contracts with little to no benefits, we need to envision a new normal.

If I understand correctly, the phenomenon you are describing is a precariousness that impacts people. What is the impact of that precariousness on talent attraction and retention in academics? How are universities, in general, overcoming that precariousness?

Finally, how can the federal government help reduce precariousness, or how can it increase talent attraction and retention?



• (1905)

[English]

**Mr. David Robinson:** Thank you for the question.

It's a complicated, complex issue that I think is going to require greater co-operation between the federal government and the provinces. Obviously, labour issues and labour law are a provincial jurisdiction, and the teaching component of education is a provincial jurisdiction.

Looking at the root causes of the increase in casualization of employment is particularly important. As I said earlier, this is a largely untapped resource. We have an enormous number of people who are highly qualified and trained to be researchers but who can't get a job that recognizes their research ability. I think this is like leaving a treasure buried in the ground. We simply can't afford to do that.

In other jurisdictions, the European Union has developed a fixed-term directive on contract work that has been applied in the university, college and post-secondary sector. That's been effective in providing some security for the long-term research that's often required.

Ultimately it's a funding issue too. One reason we've seen a growth in precarity is that institutions are squeezed in terms of overall funding. I think there's potential for renewed federal partnership with the provinces in providing adequate funding for institutions.

[Translation]

**Mrs. Julie Vignola:** I will talk about funding now.

Grant amounts have not been changed in over two decades. In your pre-budget submission, you recommend increasing grant amounts, even doubling them, moving toward a 50:50 grants and loans model and implementing a granting program that would help develop open education resources.

How are students currently affected by the fact that grant and loan amounts have not been increased?

I would also like you to tell us a bit more about open education. As a former teacher, I am curious.

[English]

**Mr. David Robinson:** With regard to bursaries and grants, providing adequate funding is absolutely important, particularly for people in that critical post-doctoral position who are looking for post-doctoral appointments. One of the impacts is that bursaries and grants have not kept pace with the rate of inflation. In some cases the subsistence that is provided for our researchers is below the poverty line, and people graduate with enormous amounts of debt. That's also a factor: Do I throw my hat into the academic employment ring, where I may not get a full-time job and I may have to work for several years and have to pay off all this debt as well? Looking at the impact of debt on career choices is certainly important.

Ultimately, if we want to make the career attractive, we have to provide the conditions necessary for people to do their work. That's where people will go. I think Dr. Myers was kind of hinting at that.

It's not just a money issue; it's also having the whole range of working conditions that are essential. Fundamental to that, if you're going to engage in a long-term research project, you need stability of employment. That's where many contract academic staff get stuck. They get stuck in the routine of just taking on teaching contracts, and the research falls by the wayside. When full-time positions do eventually come up, they're kind of left out of the mix, because they haven't been active in research for a number of years.

Particularly in that early career stage, finding some ability to help people to avoid that rut would be enormously useful.

[Translation]

**Mrs. Julie Vignola:** Which of all those recommendations do you think is the most important?

[English]

**Mr. David Robinson:** That's a good question, because it's hard to choose. Which child do I love more?

One of the things we need to look at is the way in which the federal government can provide assistance to universities, colleges, and polytechnics across the country, not just on research but also in the core operational funding. The government does provide assistance through the Canada social transfer, but that hasn't increased in some time.

• (1910)

**The Chair:** Thank you, Mr. Robinson.

[Translation]

Thank you, Mrs. Vignola.

[English]

We'll go to Mr. Cannings for six minutes, please.

**Mr. Richard Cannings:** Thank you, and thanks to the witnesses for being here.

I'm going to stay with Mr. Robinson to let him finish up on that theme, because, as he said, it was a complicated thing. From some of the reports that CAUT has done, the actual percentage of university budgets that relates to salaries has dropped steadily over the years. I'm imagining that's because they're spending more on other things, whether it's research or infrastructure.

Could you comment on that? You were just beginning to touch on that, getting back to concentrating on the education aspects that are so important.

**Mr. David Robinson:** What has been falling in terms of expenditures by universities is spending on academic-rank salaries. One of the drivers outside of that has been expenditures on contract or non-tenure-track positions. We've seen increases in administrative costs and increases in capital spending, but in terms of the core intellectual infrastructure of the university, you're right that the share of spending on those academic-rank salaries has declined quite dramatically over the past two decades or so.

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

I want to move to Dr. Myers. I'll stay on the same theme.

**Dr. Myers:** you were talking about it not being an entirely salary-driven process for attracting talent. Part of it is that brilliance attracts brilliance. I think that is something close to what you said.

I also want to make sure of something, because we were having trouble seeing the slides at this end of the room. When you were talking about Dr. Kendrick Smith, I thought I saw a picture of CHIME there.

**Dr. Robert Myers:** That's right.

**Mr. Richard Cannings:** That is a facility in my riding, so I was happy to see that. I'm happy to see researchers in other parts of the country using that facility. Hopefully, we'll maybe see it as part of this committee work.

Just to get back to that, you said you had 25 faculty and 22 who are part time. Are those 25 faculty all at Waterloo? Do you have full-time faculty associated with a number of institutions?

**Dr. Robert Myers:** The full-time faculty are here in Waterloo. Ninety per cent of them are affiliated or adjunct. For instance, I'm an adjunct faculty at University of Waterloo as well, which allows me to work with students and teach courses.

The associates or the part-time faculty are roughly half the time here in our institute and half the time at a nearby university. That's really spread across southern Ontario. Our most far-flung associate is actually based in Halifax at Dalhousie University.

**Mr. Richard Cannings:** I'm trying to get a handle on how that all... You said it was an independent non-profit organization. Where does your core funding for the Perimeter Institute come from if it doesn't come from the regular government research funding sources?

**Dr. Robert Myers:** We've had very generous support from both the federal government and the Ontario government. Slightly more than a third of our funding comes from private philanthropy—from donors and foundations, etc.

Currently, at the federal level, we're participating in a new program that is designed to accommodate not-for-profits like ourselves. You must know the strategic science fund. We're one of the organizations flowing into that program.

• (1915)

**Mr. Richard Cannings:** Okay. Thanks very much. I just wanted to get that straight in my mind.

I'm going to move back to Mr. Robinson, if I have a minute or so.

Again, when I worked at the University of British Columbia, I saw the beginning of that erosion of full-time research faculty. They were teaching undergraduate courses like Biology 101, Chemistry 100 and that sort of thing. Now pretty much all of those first-year courses—or a lot of them—are taught by contract teachers who are fully qualified academically to do research but, as you said, are not.

I'm wondering, Mr. Robinson, if you could comment on the effect that has on the inspiration for young scientists who are going

into first- or second-year university who I think would really benefit by being taught by researchers who are doing exciting stuff.

**Mr. David Robinson:** Yes, I think contract academic staff are certainly highly qualified and highly capable of teaching. The challenge they often have is that they're juggling a very high course load, because in order to make a living, they have to take on an enormous amount of work. At UBC, you may have someone teaching a few courses at UBC and at Simon Fraser and one of the colleges. They're trying to pull it altogether.

I think the issue there is ensuring people have enough time to do the work they need to do—

**The Chair:** Mr. Robinson, I'm sorry.

Mr. Cannings, thank you so much. I hope the witnesses can see that you really have an interested committee. They really want to hear from you.

We're now going to go to our five-minute round. We'll go over to Mr. Tochor for five minutes.

**Mr. Corey Tochor (Saskatoon—University, CPC):** Thank you, Madam Chair, and thank you to our witnesses for being here today.

Mr. Robinson, what percentage of your membership is tenured versus non-tenured?

**Mr. David Robinson:** About one-third of our membership would be off the tenure track. That's just based on the membership counts that we get. Again, we don't have a really good picture, because the one survey we do of academic staff doesn't include contract academic staff.

**Mr. Corey Tochor:** Is there tension between the two?

**Mr. David Robinson:** Not really. I think there are three different kinds of contract academic staff that we want to talk about. There are people who are hired to replace someone who's on a sabbatical. It's a temporary thing, and they know it's a temporary business. There are also professionals, such as architects or lawyers or doctors, who teach a course once in a while as part of their professional commitments. The big bulk of contract academic staff are hired to essentially do the heavy lifting of teaching within a university. In most cases, in most of our member associations, both the full-time and the contract staff are members of the same bargaining unit and negotiate the same terms and conditions of employment.

**Mr. Corey Tochor:** Switching gears a little bit to funding, sometimes grants and funding are tied to how many Ph.D. students we have in different institutes. I've heard from Ph.D. students that after they graduate, there are very few openings. They feel that sometimes the institution, because of funding requirements, has so many seats, and unfortunately for them, when they're out, there are not that many opportunities, but the different institutes need to have those seats in order to get funding.

Can you elaborate on whether that's a true snapshot of what's going on out there?

**Mr. David Robinson:** I think it's hard to really generalize, but sure, I think people graduating with a Ph.D. today are facing a rather uncertain labour market, if they're looking towards universities, because of the increasing casualization of the workforce and the difficulty in getting grants. Getting that first grant is absolutely critical. Getting your post-doctorate grant is absolutely critical if you are interested in a longer-term career within a scientific field, for instance.

I think looking at those issues, not only stability of employment but also opportunities in terms of funding, is absolutely critical.

• (1920)

**Mr. Corey Tochor:** I know we're missing data on the makeup of the membership, but perhaps you could take a stab at this. How many in your membership would be trained in Canada versus internationally?

**Mr. David Robinson:** Unfortunately, I couldn't answer that. I couldn't even hazard a guess. We obviously have a very international market, but I don't know the numbers for that. I'm sorry.

**Mr. Corey Tochor:** Thank you very much.

I'll switch gears and go to Dr. Myers about the Perimeter Institute.

I'm very intrigued about how that got started. A lot of times you talk about big tech companies, but they start as small tech companies. A lot of times it's the innovative start-ups that take on, at least in technology, some of the tech giants. They're people who are doing things a little bit differently.

It sounds very similar to your story, but I'd like to hear about how that got started.

**Dr. Robert Myers:** The Perimeter Institute was really the brainchild of Mike Lazaridis. You may know him as the inventor of the BlackBerry. He built the first modern cellphone, this device that we're all dependent on now. He realized that what he had there, in a BlackBerry, was really dependent on blue-sky research from 100 years ago. He really saw the importance of investing in that.

That's really part of our DNA now. It's that long game that I talked about. We're looking for those transformative breakthroughs that are going to change the lives of our grandchildren's grandchildren, but as I was trying to illustrate, along the way there are all of these....

If you take brilliant people and apply them to tough problems, you get all these unexpected spinoffs. It may take the form of pictures of black holes. It may take the form of a new start-up using machine learning to optimize finance portfolios. There's a real investment that Mike made there, and a real vision he had, to carry us forward.

**Mr. Corey Tochor:** You talk about being as far-flung as Halifax, but geographically in Canada, are your institutes out in our neck of the woods? Are there examples west of Manitoba?

**Dr. Robert Myers:** With regard to the associate program, we worked for many years with an associate at the University of Victoria, actually. Unfortunately, he's no longer there. I believe that largely for personal reasons, he moved to the United States recently, to Minnesota. That was the farthest we went west, and at present

we don't have any associates out there. We still have the affiliate program. It covers all of the western provinces.

We also work with various organizations such as TRIUMF in partnerships, for instance, to run a summer school in—

**The Chair:** I'm sorry, Mr. Myers; I'm going to have to interrupt.

**Dr. Robert Myers:** Okay, sorry.

**The Chair:** Thank you, Mr. Tochor.

With that, we are going to go to Mr. Collins.

**Mr. Chad Collins (Hamilton East—Stoney Creek, Lib.):** Thanks, Madam Chairman. I'll start with Dr. Myers.

You talked about the cluster effect. Brilliant people want to work with brilliant people. That, I'm assuming, was a challenge to foster during a pandemic, when international travel was suspended. I'm assuming international student numbers were down during the pandemic. Can you share with us how the pandemic impacted your ability to attract top talent from other parts of the world? That was a part of your opening. You bragged about your successes in the past.

**Dr. Robert Myers:** Yes.

**Mr. Chad Collins:** What we can do to support kickstarting the process you had in place prior to the pandemic?

**Dr. Robert Myers:** We're very fortunate in that I work with blackboards such as the one behind me. I don't have an experimental lab. It was very easy for me and my colleagues here to take our work home and interact via Zoom.

It did slow us down. We were successful, though, in recruiting at all levels. I must say that the place the pandemic hit hardest was in our master's program. Every year we have a class of about 20 to 25 master's students who come for a one-year course. It's largely an international cohort. Unfortunately, because of the pandemic, we were not able to actually bring them to Waterloo. That was very difficult for them.

We managed to do it online, but we made a special effort to bring the students here. We got them all here last September. It really added a lot of energy to the institute. It was really a turning point in opening up again the energy and the presence that they had here in the institute.

Well, I'll just close there. Those are my thoughts on the pandemic.

• (1925)

**Mr. Chad Collins:** Thank you for that.

Mr. Robinson, can I take you back to the issue that you raised in regard to precarious employment? I agree with you in that it is a dual responsibility. There are shared responsibilities between the provinces and the federal government in terms of supporting you and everyone involved in that issue.

Are there provinces right now that have stepped up to the plate and have gone above and beyond what you expected in terms of trying to resolve the precarious employment situation? Is the issue the same across all provinces, currently? Can you tell me what the situation's like in that regard?

**Mr. David Robinson:** Sure.

There are variations among the provinces. One variable is the level of funding. Obviously, different provinces provide different levels of support for institutions. In those provinces where there's higher public investment, we do see generally lower levels of casualization.

**Mr. Chad Collins:** Who's doing it right, in your mind, at this point in time?

**Mr. David Robinson:** I'd have to take a look at the actual data. I'd be happy to follow up with you on that. I don't have the most recent numbers.

Again, it's hard for us to get a clear handle on the actual number of contract staff in each place. We have broad trends, but when you look on an institution-by-institution basis, it's very difficult to tell.

**Mr. Chad Collins:** Okay. Thank you for that.

To Ms. Watts-Rynard, in your opening you talked about how public investment leverages private sector funding. You gave us some statistics on that. How did the pandemic impact your ability to leverage private sector funding? Is it on the rise again at this point in time? Has it returned to the prepandemic levels?

**Ms. Sarah Watts-Rynard:** What we saw during the pandemic was definitely some difficulty for some small businesses to come up with the in-cash support. The COVID recovery grants allowed for more in-kind support, and less in cash.

We've found that the private sector community is looking forward to getting back and having the kind of support they need to get back on track after the pandemic and their investments have bounced back.

**Mr. Chad Collins:** Great.

I had the same question that Ms. Bradford had earlier, about Ukrainian support. Can I ask you, Ms. Watts-Rynard, if there are efforts being made in your area or institutions to facilitate those who are coming from Ukraine?

**Ms. Sarah Watts-Rynard:** The colleges overall are doing a lot of work when it comes to thinking about how to support those coming from Ukraine. However, I'd be hard pressed to give you a hard number on that.

There is a lot of support that I'm seeing among our members.

**The Chair:** Thank you very much, Ms. Watts-Rynard.

Thank you, Mr. Collins.

I see we have two minutes left.

[*Translation*]

Mrs. Vignola, you have the floor for one minute.

[*English*]

Mr. Cannings, you will have one minute after that, to be fair.

Go ahead, Madame Vignola.

[*Translation*]

**Mrs. Julie Vignola:** Thank you very much.

Mr. Myers, you said you had special strategies to attract talent and that it was not only a matter of salary, but also of quality of life and good working conditions. I would like you to elaborate on that. If we run out of time, I invite you to answer me in writing. That would be wonderful. Thank you in advance.

What could the federal government do to attract talent, both in Quebec and in the rest of Canada?

This question is for the three of you. Thank you so much.

[*English*]

**The Chair:** Madame Vignola, are you asking each of the witnesses?

Terrific. Each of the witnesses can answer that question.

[*Translation*]

Thank you.

• (1930)

[*English*]

Mr. Cannings, one minute goes to you.

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

I'll turn to Ms. Watts-Rynard. You were rushed at the end of your initial presentation. You had the three recommendations. I didn't really catch all of the third recommendation, so maybe you could expand on that for 45 seconds. I'd appreciate it.

**Ms. Sarah Watts-Rynard:** The final recommendation was around the tri-council funding formulas and ensuring that the college and community innovation program is not exempt from some of those funding formulas in the research support fund and programs like the Canada research chairs.

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

**The Chair:** Thank you, Mr. Cannings and Ms. Watts-Rynard.

We'd like to thank all of you. We thank you for your time, your effort and your expertise. You've all been very gracious, and we are all very grateful to you.

We will say thank you and we will suspend while we get ready for our next panel.

• (1930) \_\_\_\_\_ (Pause) \_\_\_\_\_

• (1930)

**The Chair:** Welcome to our witnesses. We are delighted that you can join us tonight on this study of top talent, research and innovation.

For this panel, we are very fortunate to have as an individual Dr. Kevin Smith, president and chief executive officer, University Health Network.

We welcome you. Since you represent the health sector, we would like to acknowledge all that you've done through the pandemic and your life-saving service.

From the Canadian Alliance of Student Associations, we have Christian Fotang, chair of the board of directors. Welcome.

From the Natural Sciences and Engineering Research Council, we have Dr. Alejandro Adem, the president, and we have Dr. Danika Goosney, vice-president, research grants and scholarships directorate.

We welcome all of you. We're looking forward to your testimony. Each of you will have five minutes. At the four-and-a-half-minute mark, I will raise this card, which lets you know you have 30 seconds left.

We aim to be fair here, so with that, Dr. Smith, we'll begin with you. The floor is yours, and welcome.

• (1935)

**Mr. Kevin Smith (President and Chief Executive Officer, University Health Network, As an Individual):** Thank you, Madam Chair, and thank you to the members of this distinguished committee.

First I'd like to commend the committee for focusing on how best to support research and innovation in Canada and to attract and retain top talent. This is an issue we are charged with daily at the University Health Network.

My name is Kevin Smith. I have the privilege of serving as president and CEO of UHN, Canada's largest and most prolific research and training hospital. UHN has recently been recognized as one of the top five hospitals in the world by Newsweek. I should note, with some pride, that we're the only hospital among the top 10 hospitals identified by that organization with a universally funded system, whereby all have equal access to outstanding care, care that is informed by and improved through research.

As you know, one of the greatest challenges facing hospitals is a shortage of providers. University Health Network is also Canada's only hospital that has embedded within it a health professional training school, known as the Michener Institute of Education.

Research should include pedagogical or educational research, an incredibly important part of the future of Canada's training programs. Such a model, in our opinion, offers a national opportunity for the development of new professions, including extender professions that might help meet the needs and incredible demands placed upon clinicians for the rapid delivery of clinical care in order to

catch up from COVID, coupled with a growing and aging population.

Fully 80% of Canada's health research is undertaken by research hospitals in Canada. That's 80%. This is often missed by many, and is a very important fact for the committee. Of course, our university partners are essential to research and scholarship, but it is the clinical environment research hospitals, and especially those with major research programs and ecosystems, that are very much the engine of this machine.

At UHN, we're very proud and fortunate to have completed almost \$500 million of research in the last year. That is mostly money that was spent on salaries of research staff, technicians, technologists, support staff, and of course the scientists themselves. This investment creates thousands of high-quality jobs and a high quality of work life.

Each day we work at retaining and attracting the very finest minds to research in clinical care. Because we are a leading organization, each and every day we see attempts made by other world-leading organizations to recruit away our very brightest and best. Thanks to the Government of Canada, we've been able to stand our ground for some time. We've been able to keep those who are in the greatest demand in Canada. We've been able to attract stars and we've been able to see the world's leading organizations come to Canada, looking to attract those stars as well.

However, COVID and significant investments by other nations have changed everything. We are increasingly struggling to do so, especially at a time when investigators are thinking about quality of work life and access to needed resources.

Presently, Canada spends approximately 1.5% of its total health care budget on health research. This is a very small amount when compared to leading economies of the world. If we wish to maintain our standing in a vibrant research ecosystem, we must consider additional investment. Remember that the limited investment truly pays off. The research sector employs 482,000 Canadians and contributes over \$7.8 billion to Canada's GDP.

The current research landscape, using the tri-councils and the CFI, has served Canada well for many years. That said, numerous reports and suggestions have been put forward about how we might better structure the system.

I won't spend my limited time today talking to you about structure, as I believe the structure alone will not significantly advance Canada's competitiveness. Investment is truly what's needed. This investment, whether in infrastructure—both physical or cyber—direct operating grants for researchers, or targeted initiatives, stimulates researchers to ask the most important questions. Researchers are struggling since inflationary pressures in laboratories are increasing at approximately 10% per year, while the CIHR budget for training and investigator-initiated awards has not increased at all.

Canada has been a player on the global stage and must remain strong. This means ballparking our estimates in research investments against other leading research jurisdictions. Unfortunately, Canada has fallen behind. The CIHR budget is approximately 45 times lower than that of the National Institutes of Health in the United States.

● (1940)

That's a fourfold to fivefold per capita difference in investment in health research. That means keeping top talent is more at risk than ever.

Canada's science is world class. It's affordable. It's competitive. It directly benefits the lives of Canadians. It attracts industrial investment and highly qualified jobs.

Investing in Canadian research talent—

**The Chair:** Dr. Smith, I am sorry to do this, but I have to be fair. I know our members are going to ask a lot of questions, and we thank you.

**Mr. Kevin Smith:** Yes, I'm sure we'll get to others. Thank you.

**The Chair:** We thank you so much.

We will now go to the Canadian Alliance of Student Associations.

Mr. Fotang, the floor is yours for five minutes.

**Mr. Christian Fotang (Chair of the Board of Directors, Canadian Alliance of Student Associations):** Thank you.

Good evening, honourable Chair, esteemed committee members and fellow witnesses. I'd like to begin my statement by acknowledging that I speak to you today from Amiskwaciwâskahikan, or Beaver Hills House, now called Edmonton, on Treaty 6 territory.

My name is Christian Fotang. I'm the chair of the Canadian Alliance of Student Associations and I'm also the vice-president of external affairs for the University of Alberta Students' Union.

CASA is a non-partisan, non-profit organization that represents over 275,000 students at colleges, polytechnics and universities from coast to coast to coast. Through a formal partnership with the Union étudiante du Québec, we are a trusted national student voice, and together we represent 365,000 students at all levels across Canada.

First I'd like to thank the committee for the recognition of the importance of student perspectives in federal research funding and innovation.

Innovation, according to the Science, Technology and Innovation Council, is more than research and development; it is transforming knowledge into products and services that Canadians and others in today's global marketplace need, want and will pay for.

As I pursue my biology degree at the University of Alberta, I'm no stranger to the importance of research and innovation. The state-of-the-art research facilities at the U of A have allowed me to use the theories and skills that I learned in the classroom and apply them in real-world practical research. This is thanks to the bursaries and grants available to students that made world-class research at a U15 institution accessible to a kid like me from single-parent household.

Many other researchers like me rely on grants to attend post-secondary education. Specifically, the Canada graduate scholarships provide government-funded research grants to graduate students who help keep Canada at the forefront of industry. Though I myself

am not a graduate student, I have heard from graduate students how important this funding is. The tri-council agencies that distribute the Canada graduate scholarships provide over 3,000 graduates and post-doctoral students with \$17,500 in grants each year to conduct research at dozens of institutions across Canada.

This funding is esteemed, but the reality is that with the cost of rent rising, groceries getting more expensive and the rising cost of post-secondary education in many provinces, \$17,500 over 12 months is just not enough. Students continue to be concerned about how to afford their studies. This financial insecurity can make research opportunities inaccessible for many students. Instead of focusing on academic research and innovation, they are concerned primarily with trying to afford to stay in school. In fact, grants for these student researchers have represented a shrinking portion of the tri-council budget over the past several years.

Since 2015, the government has made significant reinvestments in tri-council budgets, allowing their overall funding to catch and even exceed previous cuts made to the program since 2010. However, funding for the graduate scholarships investments has not kept pace with other investments being provided to research granting agencies. At its peak, student scholarships represented 16.9% of the Social Sciences and Humanities Research Council funding. Before the 2019-20 award year, student scholarships had fallen to 13% of the SSHRC budget. This downward trend has also appeared in the other two agencies of the tri-council. NSERC's student scholarship funding has gone from its peak of 13.3% to 8.3%, and CIHR student scholarships have fallen from 6.3% to 5.5% of the council's budget over the same period.

CASA estimates that the accumulated gap in funding for student grants since 2011 is \$120 million. This is to the detriment of student researchers, who rely on these grants to pay rent, buy groceries and get to and from school while conducting the research mentioned above. The targeted scholarships and fellowships for promising Black student researchers in budget 2022 are important steps in the right direction; however, these proposed investments still do not address the gaps in the Canada graduate scholarships program.

This research funding for students is a fundamental solution to this committee's study today on top talent in research and innovation. This is why CASA has called on the Government of Canada to increase funding for student scholarship programs by \$120 million on a recurring basis, plus re-establishing the importance of student scholarships within the overall envelope of the tri-council.

In closing, as Canada continues to invest in innovation, it is important that Canada also invest in the student researchers tasked with solving science's greatest challenges and creating the technology that will advance Canada as a leader in research and innovation.

I look forward to answering your questions.

• (1945)

**The Chair:** Thank you, Mr. Fotang. We wish you continued success as you pursue your degree. Thank you for your testimony.

We will now go to the Natural Sciences and Engineering Research Council. The floor is yours for five minutes.

**Dr. Alejandro Adem (President, Natural Sciences and Engineering Research Council):** Good evening, Madam Chair and members of the committee. My name is Alejandro Adem. I am the president of the Natural Sciences and Engineering Research Council, commonly referred to as NSERC.

Thank you for this opportunity to appear before you for a second time. I am pleased to be joined today by Dr. Danika Goosney, NSERC's vice-president for research grants and scholarships, with whom I will be sharing my time.

I wish to acknowledge that I am living and working on the traditional ancestral land of the Musqueam people.

[*Translation*]

Talent, from the perspective of a research funder, is the foundation that underpins the health, well-being and economic success of our country.

Researchers trained in the natural sciences and engineering power discovery, drive innovation and found companies that create well-paying jobs.

[*English*]

In order to address major challenges like climate change and to keep pace with technological advances in areas like AI and quantum, Canada must focus its efforts on training, attracting and retaining the best and the brightest.

As someone who studied in the United States and then built a career in Canada, I can attest to the fact that Canada's strong research ecosystem is a real asset when it comes to attracting talent. However, as other countries double down on their investments in science and research, Canada must keep pace.

[*Translation*]

We must also remain true to our values, breaking down barriers to ensure that the next generation of talent is inclusive and reflective of the diversity of this country.

We must recognize the role of the research ecosystem when it comes to reconciliation and to creating meaningful, accessible opportunities for indigenous students.

[*English*]

As the current chair of the Canada research coordinating committee, I am pleased to share that we have been working hard to harmonize and streamline our approach to talent development among research funders.

I will now turn the floor over to my colleague Dr. Goosney to share more on the CRCC talent strategy, in addition to providing some reflections on how NSERC supports trainees and how we are tackling challenges within the research ecosystem.

**Mrs. Danika Goosney (Vice-President, Research Grants and Scholarships Directorate, Natural Sciences and Engineering Research Council):** Thank you, Alejandro.

Good evening, Madam Chair and members of the committee.

As a former research scientist and someone who benefited from the support offered to trainees by the Government of Canada, it's an honour to contribute to this important study.

I wish to acknowledge that I am living and working on the traditional and unceded territory of the Algonquin Anishinabe people.

[*Translation*]

The pool of talent supported by NSERC and the other granting councils plays a critically important role in powering research in Canada. Simply put, students and postdocs are the engine of the research enterprise.

Participation in research stimulates key growth mindsets essential for success in the labour market—critical thinking, curiosity, experimentation and teamwork, just to name a few.

[*English*]

NSERC supports these trainees and fellows in two ways: directly through scholarships and fellowships, and indirectly via grants to researchers who hire trainees.

NSERC discovery grant award-holders contribute 70% of their grant money to compensate students working on their research projects. This federal funding plays a critical role in supporting students and in the overall talent ecosystem. I would like to emphasize the importance of the award values of granting council scholarships and fellowships. The fact is that the award values offered by the three granting councils set the bar for student compensation provided by post-secondary institutions through research stipends and other funding sources. In a way, the value of awards offered by the granting councils dictates compensation for trainees and fellows across the country.

It is also a fact that the value of these awards has not changed substantially in a generation. For example, NSERC's doctoral award has remained almost constant at \$21,000 per year since 2004. Considering a mean inflation rate during this period of 1.85%, this means the effective award value has dropped by 42%. This poses a real challenge to students when it comes to covering their basic costs of living.

Furthermore, we know that disadvantaged students are more likely to accumulate debt during their undergraduate degree. These same students may find it challenging to continue on to the master's and Ph.D.-level programs if financial supports are not considered viable. The same situation holds true when it comes to attracting talented international students. However, at the present time, eligibility restrictions also play a role.

● (1950)

[*Translation*]

We are conscious of these issues.

We are working with our fellow granting agencies to find appropriate solutions.

In the immediate term, we are very pleased with new funding announced in budget 2022 to provide increased support for Black student researchers.

We are also carrying out an important evaluation of talent-support programs to add to the evidence base that exists.

[*English*]

As Prof. Adem mentioned, under the direction of the Canadian Research Coordinating Committee, we are developing a tri-agency talent strategy—

**The Chair:** Dr. Goosney, I'm sorry.

**Mrs. Danika Goosney:** It's all good, Dr. Duncan.

**The Chair:** The worst part of this job is doing this to all of you.

Thank you for all the wonderful testimony. Our members are really eager to hear from you, so we're going to start our six-minute round of questions.

With that, we begin with Ms. Gladu.

**Ms. Marilyn Gladu (Sarnia—Lambton, CPC):** Thank you, Chair, and thank you to all of the witnesses for appearing today.

I'm going to start with Dr. Smith.

You talked about the things that the Government of Canada is doing to help. What additional things should they do to help? Maybe you could finish some of the comments that you ran out of time for.

**Mr. Kevin Smith:** Thank you. I apologize for my poor time planning.

At the end of the day, as my colleagues have talked about, it really is additional investment, whether that's direct investment, investment through taxation credits or investment through creating donation opportunities for securities, as a number of our philanthropic donors have been lobbying for.

As all my colleagues have stated tonight, it really is about getting more of those resources to more researchers to answer good questions and keep them in Canada, particularly as we see more attempts to recruit our very best students and recruit away our very best faculty members.

**Ms. Marilyn Gladu:** I took your point very well that the inflation rate is huge. We're not keeping up. We're not increasing, and

then we're not even compensating for inflation. I think that was a really good point.

**Mr. Fotang,** we've heard from multiple witnesses that at the end of the day, it's the salary that we're paying for our doctoral students: It hasn't changed. It's not enough. It's not competitive with other places. Would you agree with that? Are there other barriers that you think the Government of Canada should be helping to remove?

● (1955)

**Mr. Christian Fotang:** Thank you for the question.

CASA does not represent doctoral students, so I can't comment on that. I'm sure there are witnesses who would be best for that.

I hate to sound like a broken record, but in terms of barriers, it comes down to the fact that investing in and providing these scholarships is the way to increase access. Right now students are putting their focus and time into just trying to stay in school rather than focusing on their research. Providing that opportunity through these grants, bursaries and scholarships is how we best eliminate those barriers.

**Ms. Marilyn Gladu:** Excellent.

I have the same question for Dr. Goosney.

**Mrs. Danika Goosney:** Thank you so much for the question.

I do have to agree with my fellow witness on raising the value and the duration of the stipends for both the post-doctoral and doctoral levels. At NSERC, we also had an undergraduate student research award and one at the master's level, of course. Raising all of these would go a long way in terms of attracting and retaining talent and removing barriers to accessing graduate studies.

**Ms. Marilyn Gladu:** Excellent.

Dr. Smith, which countries are trying to steal away our brightest and best? What are they offering, so we know what the benchmark is?

**Mr. Kevin Smith:** I would say it is most countries.

When I look to those in the United States, the United Kingdom and all parts of the European Union, I see that all advanced economies recognize that Canada provides outstanding research training and has outstanding students. As a result, we're seeing very high-quality publications, citations and outputs in areas such as patents.

The area where we most suffer is the United States. In addition to compensation issues, there are start-up issues. As our chair knows, with organizations like the CFI, an essential ingredient for us to retain young, mid-career and even later-career investigators is having the infrastructure to ensure that they have the resources required. It's not only for the students, but also for the laboratory to be truly cutting edge.

**Ms. Marilyn Gladu:** What type of infrastructure are we talking about? Is it lab test equipment? Could you elaborate?



**Mr. Kevin Smith:** I would say that in terms of actual research space, we're dramatically short on laboratory space in downtown Toronto, as an example. Daily we have to turn away private sector colleagues who would be interested in renting laboratory space just to be juxtaposed to UHN and U of T.

In addition to that, we can't ignore cyber-infrastructure for too long. I think we've focused on physical infrastructure as an important component, and it is. Cyber-infrastructure—and my colleagues from NSERC I'm sure will comment on this—including big datasets, data lakes and cyber-protection, is very expensive. However, this is absolutely essential research infrastructure for us to truly play on the competitive landscape and attract industry to establish businesses and jobs here and to remain here, as opposed to taking Canadian science and exploiting it elsewhere for jobs and opportunities.

**Ms. Marilyn Gladu:** Very good.

Mr. Fotang, in terms of students being left with a lot of debt, are there recommendations you would make to the government on things we could do to help with that?

**Mr. Christian Fotang:** Of course. One of CASA's asks this year was maintaining the doubling of the Canada financial student grants, which was doubled from \$3,000 to \$6,000. That has been immense for a lot of students, in being able to make it through their semester's tuition and cover rent and groceries—you name it.

There are also other things. For example, mental health has been a real crisis for students. We've also advocated a national strategy across the country. University can be a very competitive area, and that mounts pressure on students. It's making sure there are supports for them so that they're taking that energy and time into their classes and not flunking because they have anxiety or depression or any other sorts of concerns.

**Ms. Marilyn Gladu:** Thank you so much.

**The Chair:** Thank you for being so prompt, Ms. Gladu.

Thank you to you both.

We will now go to Monsieur Lauzon for six minutes, please.

[*Translation*]

**Mr. Stéphane Lauzon (Argenteuil—La Petite-Nation, Lib.):** Thank you, Madam Chair.

I want to begin by thanking the witnesses who are joining us today for this important study.

I know we will stop hearing from witnesses very soon, but I would like to point out an important element concerning mental health. We are talking about keeping our students in the centres. We know that money is an important issue, but I would like to talk to you about mental health.

I will go to Mr. Fotang.

In 2018, two years before COVID-19, the Quebec Student Union carried out a large study with 24,000 university students titled "What's Behind the Mask?". That study showed that 58% of university students were experiencing a high level of psychological distress.

Do you think the contracts of that study with 24,000 students apply to students from across Canada?

Do you have any comparable data?

• (2000)

[*English*]

**Mr. Christian Fotang:** I haven't had the chance to look at the reports you mentioned, but CASA has conducted similar surveys and we have had similar results.

I'd be happy to follow up with you and provide some of those results—

**Mr. Stéphane Lauzon:** It's very important for us to put that data in this study.

[*Translation*]

Could you tell us what experience you would have shared with your students on psychological distress? A number of factors can play a role, such as distance or finances.

Have you felt any psychological distress in your association?

[*English*]

**Mr. Christian Fotang:** Speaking from an individual perspective, certainly this has been a very tough year—a tough two years, really, with the impacts of the COVID-19 pandemic. I know that has impacted a lot of sectors, but students especially. I think learning from home in the virtual environment has been really tough, in the sense of loneliness and not being able to connect with people in person. As we've started to open up again and have in-person classes, I think it's been tremendous for a lot of students' mental health.

There are also instances of our international students too. Many didn't qualify for the CERB or the CESB, and they're far from home. All of these things compounded have had huge effects on their mental health, and again that sense of anxiety, of depression. It's really had an impact.

[*Translation*]

**Mr. Stéphane Lauzon:** Thank you.

[*English*]

I will switch to Dr. Goosney and Dr. Smith on the same issue.

[*Translation*]

A survey carried out in February 2020, obtained by La Presse, reports that 25% of medical externs and researchers even thought about ending their lives during their education. That's one student in four. I thought that was an alarming statistic, given that the students of today are our doctors and researchers of tomorrow.

As president of the University Health Network, what do you think about the situation and what do you know about it?

[English]

**Mr. Kevin Smith:** Thank you very much for the very important question.

It is among the top issues that we're working on, both with learners as well as faculty members. Our nursing colleagues in particular have identified burnout and stress as a particularly risky issue. In academic nursing, of course, we're dramatically short. At the University Health Network at the moment, we have an opportunity for 600 nursing hires. They just simply aren't available.

In addition, we're seeing more people within the health professions and the research professions advising their children not to undertake studies in these domains, and I think that's the most concerning aspect of all. Their concerns have been particularly exacerbated through COVID.

I would say that all of the universities and academic hospitals have programs in place to support the psychological well-being of learners and faculty members, but as we're learning, the system has been overwhelmed, so we have a great backlog—not only, as we hear in the media, in areas like surgery, but also in mental health and the importance of mental health. Frankly, an investment of research dollars into the mental health of the provider community and the research community would also be a very welcome initiative.

[Translation]

**Mr. Stéphane Lauzon:** Thank you very much for your answer.

The Government of Canada created a tool called Wellness Together Canada to help people with psychological problems.

Do you provide any tools through your system to help those people and to address the demands more specifically, either through a direct line or through special assistance?

• (2005)

[English]

**Mr. Kevin Smith:** We do. One of the tools we've been using is a wellness survey for clinicians and researchers, working with the Mayo Clinic in the United States. I am a bit worried to tell you that the rates at which we see the responses indicating high levels of burnout and significant mental health distress are above 80%.

That having been said—

**Mr. Stéphane Lauzon:** I just have a quick question before we end.

**The Chair:** Monsieur Lauzon, perhaps you could ask for the answer in writing.

**Mr. Stéphane Lauzon:** Yes, that is what I want to ask.

Can you give us all the information? You can send it to us to make sure that we have it in the report.

**Mr. Kevin Smith:** Thank you; it will be my pleasure.

**The Chair:** Thank you, Monsieur Lauzon.

Thank you to both our witnesses for talking about mental health and for sharing what data you can.

[Translation]

It is now Mrs. Vignola's turn for six minutes.

**Mrs. Julie Vignola:** Thank you, Madam Chair.

I will first turn to Mr. Smith.

Mr. Smith, I really admire all your accolades and your decision to stay and work here in Canada.

That can't be a very easy decision to make. What is keeping you here in Canada? You have surely received some pretty attractive offers from abroad. How are you keeping yourself here and how can we ensure that exceptionally talented individuals like you stay in Canada and don't go to the United Kingdom, to European Union countries or to the United States, including the Silicon Valley, to which we are losing many of our talented computer scientists.

What can we do to keep others like we managed to keep you here?

[English]

**Mr. Kevin Smith:** You're much too generous about my limited contributions, but thank you. I'm a Canadian and I want to stay in Canada. I want to build Canada. I want to contribute to Canada having the highest quality of life in the world. I think we have all of those things in front of us, and there are opportunities to which we can contribute.

I made that choice many years ago. One of the advantages we have as visiting professors, going elsewhere and being able to experience those environments, is that we also learn that one can get things done in an interdisciplinary and transdisciplinary way in very unique ways in Canada. The collaborations we enjoy here are truly remarkable. That said, I've lived through times when we were more investment-rich than we have been of late. As we look to the future, it will be more difficult, and we're seeing new generations of young Canadians who are being encouraged to look at the quality of life, quality of work life and access to the tools that will make them successful. However, I believe that if we can offer those, we'll continue to keep Canadians in Canada.

In addition, just keeping Canadians in Canada isn't good enough: We have to recruit the brightest and the best. We're fortunate to do so at UHN. I can tell you that this week I was fortunate enough to interview colleagues from places like Memorial Sloan Kettering and MD Anderson in the United States, from the Karolinska in Sweden and from leading academic institutions in London. I'm sure we won't get every one of those landed, but we'll land a number, because it remains an attractive place to be.

However, for us to continue to be successful and keep the brightest and the best, we need to be competitive in funding, be it for students, faculty members, infrastructure or direct grant support.

Madame, you're stuck with me for the rest of my career. I'm happy to be here, and fortunate.

[*Translation*]

**Mrs. Julie Vignola:** That's great. We are really happy about that. Thank you.

My next question is for the three of you. You can take turns answering. Given the short amount of time I have left, if you don't have enough time to answer, you can send me your answer in writing. I'm sorry that we have so little time.

We talked about mental health, and I know very well how difficult it is for a student to focus with an empty stomach or when they don't know whether they will be able to pay their rent or have to negotiate it.

Requests are often made to double grants, as Mr. Fotang suggested earlier, and to increase funding. Could that ultimately impact our students' mental health quality?

• (2010)

[*English*]

**Mr. Christian Fotang:** Affordability plays a huge role in the mental health aspect for students. It's enough that they're worrying about their courses, or being lonely or overwhelmed, but part of that feeling of being overwhelmed comes from not knowing where they're going to get the money to pay for their tuition, to pay for their rent and to pay for their groceries. When we talk about “investing” in those scholarships, that's exactly what it's doing: It's taking care of that burden that students have to put on themselves right now.

**Mr. Kevin Smith:** Perhaps I could add one comment. We are seeing a significant increase in graduate student numbers, as our NSERC colleagues will confirm, yet we are not able to provide them access to the same resources. Just as in our grants, we are saying no to many remarkable learners and many remarkable research opportunities.

Absolutely, increased investment would improve the situation. Do I think it will improve the mental health of individuals? Probably not. I suspect there's going to be both a cultural and a service change that's required.

I think we are in the throes of trying to make that happen, but we within the sciences still see resistance to identifying mental health, because of stigma. We all need to work at encouraging scientists and learners to come forward when in need of mental health supports.

**Dr. Alejandro Adem:** I'll add that I had about 40 students and post-docs during my career as a professor. Taking care of the precarious nature of the graduate students' life is definitely very important for the stability and the well-being of those individuals if they are going to fully realize their potential in research. It's absolutely important, not only for mental health, but for their well-being as human beings.

**Mrs. Danika Goosney:** I would echo the comments made by my fellow witnesses. I think this increase would impact their mental health and certainly support the students much more effectively than they are supported now.

**The Chair:** Thanks to all of you.

[*Translation*]

Thank you very much, Mrs. Vignola.

[*English*]

Now we will go to Mr. Cannings for six minutes, please.

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

I'm going to stick with this line. I must say that I was just flabbergasted when I found out a few months ago that the values of these grants and scholarships that support our graduate students—and not just our graduate students, but our best graduate students, the ones who actually qualify for these grants and scholarships—hadn't changed since 2003. I think I was meeting with CASA or perhaps another group.

How does this happen? It's not just that the cost of living has gone up since then; tuition has skyrocketed since then. Now we have students trying to live on \$17,000 or \$20,000 a year, well below the poverty line and well below minimum wage. I was a grad student, and it was a full-time job.

I don't know.... I guess I'll ask you, Dr. Goosney. Why has it not come to the attention of anyone at the tri-council that these students are suffering? As to whether it's hard on their mental health, I know it's hard on them just to get enough money for groceries. Now they have to work part time or go into debt. Why did this happen? How can we fix it as soon as possible?

**Mrs. Danika Goosney:** Thank you so much for your question. This certainly has come to our attention during our consultations for our strategic plan, “NSERC 2030”.

One of the key themes we heard about was an increase for the value and duration of these awards. Many folks commented on the fact that the awards hadn't been increased in the time frame you've mentioned. The recommendation was to increase a greater number, a greater value and a greater duration of these awards. I would say that the reason this situation hasn't been redressed over time is that there has been a constant re-evaluation of the balance between the number of awards we offer and their monetary value. It's a zero-sum game.

In 2015, we did increase the value of the post-doctoral awards from \$40,000 to \$45,000. Last year, we did increase our portion of the undergraduate student research award from \$4,500 to \$6,000. We've also increased the duration of the awards to three years instead of two years. Following budget 2019, we did receive 600 new Canada graduate scholarships. We've also invested in paid parental leave by increasing that leave for students from six months to 12 months, which was an investment.

That said, we are aware that with regard to our NSERC post-graduate scholarships and the other tri-council funding, students certainly are facing increasing financial hardship and that the rising cost of living does present a significant barrier to pursuing the graduate-level scholarships. We are committed to working very closely with the two other federal granting councils and with the research community to figure out ways in which we can better support these trainees.

Thank you for your question.

• (2015)

**Mr. Richard Cannings:** Thank you, and I hope we fix it by 2023, not by 2030.

I want to turn to Mr. Fotang to talk about something. I don't know if anyone has actually mentioned this.

This study is about attracting the best and brightest. I'm just wondering, Mr. Fotang, if you perhaps can comment on attracting international students and comment on the difficulties they face, whether it's funding or even the immigration limitations in getting here. I don't think we've heard anything about that in this study yet.

**Mr. Christian Fotang:** In terms of attracting international students, CASA has long been advocating the elimination of the requirement to apply for a separate work permit on top of the study permit. This has been a huge barrier to access for international students who try to apply for practicums or co-ops. Also, the processing sometimes takes a very long time, and it's quite costly and expensive for them.

There are additional things like those you mentioned. For awards and supports, right now a lot of international students tend not to qualify for or receive awards or scholarships. Also, whether it was at the provincial or the federal level of government, a lot of international students didn't qualify for CERB or CESB.

These are some of the things we can do to recruit and retain international students in terms of the advantage that Canada can provide.

**Mr. Richard Cannings:** You mentioned co-op types of options. International students can't access those. Many academic programs have a co-op aspect to them, so international students, because of their visa requirements, can't access all of those, can they?

**Mr. Christian Fotang:** They can, but they will have to sometimes apply for a separate work permit on top of the study permit.

To shed some light on this, in certain provinces, for example, there has been this huge push at the provincial level on work-integrated learning opportunities. Again, investments are being made in these areas, but it feels like international students aren't being included or recognized because there is that extra barrier they have to face, which domestic students don't.

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

I see the yellow card, so I'll cede my time. Thanks.

**The Chair:** Okay. Thank you, Mr. Cannings, for being so generous.

Thank you to all the witnesses. I hope you see the interest from this committee.

We're now going to go to the five-minute rounds, and we begin with Mr. Soroka.

The floor is yours.

**Mr. Gerald Soroka (Yellowhead, CPC):** Thank you, Madame Chair, and to all the presenters tonight.

Mr. Fotang, I think you had said that you didn't read the Canadian Alliance of Student Associations report called "Investing in Innovators". I wonder if you could still answer a question.

They had highlighted as two of their recommendations to "Enhance experiential learning opportunities" and "Create opportunities for the international exchange of ideas".

How do you think the situation has potentially changed between 2017, when the report was written, and now in 2022?

**Mr. Christian Fotang:** Sorry, you'll have to clarify. I didn't quite get that. Can you repeat the question?

**Mr. Gerald Soroka:** Okay.

The Canadian Alliance of Student Associations published a paper called "Investing in Innovators: CASA's Vision for Research and Innovation in Post-Secondary Education". It highlighted, as recommendations, to "Enhance experiential learning opportunities" and "Create opportunities for the international exchange of ideas".

How has the situation changed between 2017 and now in 2022?

• (2020)

**Mr. Christian Fotang:** I don't have an answer for you right now. I would probably be able to provide a written report for you.

What I can add, to bring you back to international students, is that it's about providing those opportunities that they need to access work experience.

**Mr. Gerald Soroka:** Okay. Thank you for that.

I will move to Dr. Goosney now.

Regarding your plan for 2030, I am just wondering, now with COVID and having to make adjustments, if there were any flaws you found in the tri-agency talent strategy, and what procedures are in place to potentially counter this.

**Dr. Alejandro Adem:** Was this addressed to me? I didn't hear the first part.

**Mr. Gerald Soroka:** It is addressed to Dr. Goosney.

**Mrs. Danika Goosney:** My apologies. Could you repeat the question? What flaws were found in the CRCC talent strategy, and what would we do to address those?

**Mr. Gerald Soroka:** Yes.

**Mrs. Danika Goosney:** The CRCC talent strategy is based in terms of empowering the students, so it's a student-centred, data-driven and evidence-informed strategy. We have it set around pillars of equity, diversity, inclusion, indigenous reconciliation, internationalization and student mobility, better harmonization across the tri-agency and preparing students for alternate career paths outside of and beyond academia.

With that said, that overarching framework, I think, remains relevant through the course of the pandemic and going forward.

That said, themes around embracing networking and enhancing interactions virtually are coming into play, along with better support to students, certainly. Stipend increases are a relevant theme that's coming through, even more because of the impact of the pandemic, recognizing of course that matters of equity, diversity and inclusion within our academic halls, particularly in the students, may have been exacerbated. We know, in fact, it has been exacerbated because of the pandemic.

While these themes were captured at the beginning, they've been made more prominent throughout the course of the pandemic.

Thank you very much for your question.

**Mr. Gerald Soroka:** As well, Dr. Goosney, are you familiar with other countries that have adopted this strategy? If so, which ones are using it, and can you share how it has turned out for these other countries?

**Mrs. Danika Goosney:** There are several countries internationally that we have been looking to in terms of environmental scanning. What I can do is provide the clerk with information on these scans so that everyone has a full report on that.

**Mr. Gerald Soroka:** That would be very much appreciated. There's a lot of interest in that, because our biggest challenge right now is trying to find areas.

I know that you also brought up funding and making sure that these post-doctoral students are paid adequately. Besides adequate funding, are there any other opportunities or challenges facing these students?

**Mrs. Danika Goosney:** Yes. Certainly the funding remains top of mind, and that's the biggest issue, but there are of course matters of equity, diversity and inclusion in terms of barriers and access to the program, so ensuring that policies, program design, peer review and evaluation are all barrier-free and that we are reviewing these processes continually to ensure that we're not increasing or creating new challenges are very important parts as well.

**Mr. Gerald Soroka:** How many seconds for my—

**The Chair:** You have only seconds.

**Mr. Gerald Soroka:** I think I will forgive my time, then.

**The Chair:** That's very generous. Thank you, Mr. Soroka, and thank you for your questions.

Now we will go to Mr. McKinnon.

**Mr. Ron McKinnon:** Thank you.

As a U of A alumnus, though that was much closer to the dawn of time, I'm going to direct my questions, at least at the outset, to Mr. Fotang.

Mr. Fotang, I understand you're an undergraduate. Is that correct?

**Mr. Christian Fotang:** Yes, sir, I am.

**Mr. Ron McKinnon:** Okay. We haven't heard a whole lot from students, particularly undergrads.

One of the common themes we've heard from just about everybody is that the federal funding is good as far as it goes, but it just doesn't go far. I wonder if you could talk to us about that and about any other things that we can do as a federal government to help you and your membership succeed if your goal is to make it through and get into grad school. What other areas can we go into? What do we need to do to help you out?

• (2025)

**Mr. Christian Fotang:** Thank you for the question. It's always great to see another U of Alberta alumnus.

In terms of what can be done to support undergraduate students, as I mentioned before, the doubling of the Canada student grant is huge and supports the average rate of tuition for domestic students, which right now is at about \$6,180. Doubling the grant from \$3,000 to \$6,000 was immense. I've heard stories from our students that a family member who was the primary supporter had passed away and that the grant was the difference between being able to stay in school and continue learning versus having to drop out, so that's one way.

We've had some really great conversations here about the importance of funding and supporting student mental health, and I'd be happy to follow up with the committee on some of those strategies.

The other thing is looking at supports for indigenous learners. Some of the successes we've seen here at the U of A are due to having transition-year programs for indigenous students. When they move to the city, it can be a huge process, and having funding that is able to support them and integrate them into the post-secondary experience is important.

**Mr. Ron McKinnon:** Thanks.

What about programs, such as Canada summer jobs, to help you get through the undergraduate years? Do you find them significant or helpful?

**Mr. Christian Fotang:** Yes. The Canada summer jobs program and other initiatives have been very beneficial to students. You've got the awards; you've got the scholarships, but when you can get work experience, especially work that is degree-relevant, and get paid for doing it, it can be used to cover other sorts of costs for education, such as your textbooks. Those funds go a really long way too.

**Mr. Ron McKinnon:** Is there anything we can do to help undergrads find jobs with private industry to help pay the bills as they go through? What can we do to encourage private industry to step up as well?

**Mr. Christian Fotang:** Some the things that can be done are having those programs you mentioned, the Canada summer jobs, and using things through Mitacs that provide those internship experiences and just promoting them so that students are aware of other opportunities they can utilize to support themselves while they're in university, a college or a polytechnic.

**Mr. Ron McKinnon:** We need more things like grants, bursaries and scholarships. Do you have any idea of the level of support we should be looking at to help undergraduates get through, succeed and go on, hopefully, to grad school?

**Mr. Christian Fotang:** To clarify, do you mean a specific number, or in terms of...?

**Mr. Ron McKinnon:** Fill in the blanks however you think best.

**Mr. Christian Fotang:** As I said, one of the most current and best things that can be done right now is through the Canada student grant. That was doubled from \$3,000 to \$6,000, but that's supposed to come to an end in 2022-23, and then it's supposed to go back to the \$3,000 level. If we can maintain that doubling, it would go a huge way in terms of supports for students.

**Mr. Ron McKinnon:** Is there anything we can do to encourage graduates to go on and start graduate school?

**Mr. Christian Fotang:** To come back to why we're here, we're talking about investing in those scholarships, as I mentioned. That's the best incentive to know that you can have that ability to pursue your research and have the supports that you need so that you're not scrambling in a panic and overwhelmed in trying to find the money you need to just stay in school.

**Mr. Ron McKinnon:** Thank you. I see the yellow card, so I will cede my time back to the committee. I would like to thank all of the witnesses for their time today.

**The Chair:** Mr. McKinnon, thank you so very much for doing that.

Madame Vignola and Mr. Cannings, you each have one minute.

[*Translation*]

**Mrs. Julie Vignola:** Thank you very much, Madam Chair.

Mr. Fotang, I will put a question to you quickly. You will likely have to answer it in writing, and I am sorry for that. I would like to get your opinion on two topics. When it appeared before the committee, the Quebec Student Union suggested that student represen-

tation be added to the boards of the federal granting councils. I would like to get your opinion on that suggestion.

The union also suggested that the number of "super scholarships" be reduced, but that the number of regular scholarships be increased to help more students. I would also like to get your opinion on that.

Thank you, respected witnesses, for joining us today. Your contribution is precious.

● (2030)

[*English*]

**Mr. Christian Fotang:** Regarding super-scholarships—

**The Chair:** Mr. Fotang, I'm sorry; I think Madame Vignola would like that in writing. I didn't make that clear, so I apologize.

We will go to Mr. Cannings for one minute.

**Mr. Richard Cannings:** I would like to stay with Mr. Fotang and ask him very quickly what his thoughts are on tuition fees, loans and interest forgiveness on loans. What does he think are the most important benefits to undergrads?

Mr. McKinnon took most of my questions, but I would like to stick with that. Regarding student loans and tuition fees, what can we do to help?

**Mr. Christian Fotang:** Needs-based forms of financial aid that let you attend university in order to graduate and reduce your debt burden are huge. Knowing that you can leave and hopefully start a business or start a family with less debt holding you back is important. That's kind of how we see it.

Understanding that from the federal perspective and providing some of those supports in investments and research scholarships, or through grants or a mental health strategy, are some of the things that can help alleviate the burden students are facing.

**The Chair:** Mr. Fotang, thank you.

I'd like to thank all our witnesses. You have been so gracious with your time, your effort, and your expertise. We know all of you and those that you serve have been impacted by COVID-19 and we want to recognize your service, so thank you to you all. We hope you've had a good experience and we hope you'll continue to engage with this committee.

We'll say good night, and thank you.

The meeting is suspended.

[*Proceedings continue in camera*]









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