

**Termeh Kousha** (Canadian Mathematical Society)

*Executive Director*

I go back to my cover article from [Dec. 2019](#) for inspiration and as I read those lines and think about writing them, I realise that we have been living in pandemic life for 8 months now. During the past 8 months, life, on personal and professional levels, has been anything but normal. CMS Notes articles of the past few issues is a testament to our struggles to find ways to readjust our lives to the new normal, they are also writ with a mixture of uncertainty and hope. Uncertainty about the future and the duration of extraordinary measures; and hope that some of these changes can open new horizons and transform the balance of our lives. The CMS staff and volunteers have not been exempt from these changes and sentiments. Many of us have had to find a way to care for younger or older members of the family, grapple with anxieties associated with a change in income or the possibility of it lingering in the air, especially for the more precarious among us and a myriad other uncertainties. The pandemic has displayed our resilience but has also exposed the gaps and inequalities in the community that we should aspire to eliminate (article by women in mathematics).

The CMS started the year 2020 with great news from NSERC and RBC Foundation regarding funding towards CMS educational programs. With the new grants, the CMS had enough funding to organize more specialty camps and activities especially for Indigenous students and Northern communities. Moreover, the CMS was able to offer more funding for competitions across Canada. We were also preparing ourselves to celebrate CMS 75th anniversary in Ottawa with over 45 sessions with over 700 participants from all over the world. In short, we were all ready to start a year full of success and new initiatives. Like many other organizations, the pandemic affected many of our plans in the CMS.

The pandemic also presented us with a chance to show creativity and resilience and I dare say the CMS staff and volunteers came out of this challenge victorious. As it is tradition here at the CMS Notes, I will present an account of programs developed and conducted and an overall focus of the Society in the paragraphs that follow.

In 2020, the Society has continued its efforts to make mathematics more equitable and open to new perspective and new epistemological frames of reference.

New funding from RBC Foundations' Future Launch program allowed the Society to add new specialty camps to its math camp program and launch its inclusion initiative: "Closing the Gap". There were plans in place for new additional math camps in the Yukon, including two rural camps in Indigenous communities and an additional camp in Whitehorse. Unfortunately, rural camps in the Yukon were canceled due to COVID-19 restrictions, but the funding was spent on expanding Whitehorse camps from two to four in order to create more social distancing and be able to organise the camps in compliance with public health protocols. Another new special camp this year was a math camp for students on the spectrum in Toronto. Fortunately, despite the difficulties, organisers worked hard to create this space for students who had been deprived of school and social life because of COVID-19 restrictions. The CMS' very own Dorette Pronk, who has worked hard for years for girls in mathematics, along with Diana Castañeda Santos organised a virtual all-girl math camps for EGMO and IMO hopefuls for the first time in the history of the CMS. We are planning to hold an all-girl in person camp for hopefuls once life is back to normal. Many of our other specialty and regional camps were canceled because of the sudden nature of the changes and lack of time and resources to properly plan a virtual alternative. However, the turn towards virtual has now equipped us with the tools and the aptitude to transition smoothly should other obstacles present themselves in the coming years.

### Terms of Reference

One of the most important achievements of the CMS in 2020, the result of months of hard work and with the help of the chairs of the CMS committees and the staff, was updating the CMS Terms of Reference, which have not been modified for more than a decade. I dare say this was my biggest achievement since the start of my mandate at the CMS. The updated Terms of Reference are now available on our [brand new website](#), yet another CMS achievement in 2020. The Terms of Reference are also being translated for the first time to French.

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 Tweet

## Math Camps

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## Competitions

Following the school closures, which were brought upon by the lockdown, the CMS saw a demand to keep students' math skills sharp during the pandemic. We sought resources and presented them to a great number of school districts across the country, created [new social media pages](#) to cater to students, their caregivers and their math educators. The CMS also created a brand new competition, [the Canadian Mathematical Gray Jay Competition](#), for primary students. The new competition, which was also offered in virtual format this year, consists of multiple-choice questions and its objective is to engage younger students with mathematics, in a fun and stimulating way. [The Canadian Open Mathematics Challenge](#) (COMC) too had to be offered in two formats, paper and virtual, to meet the needs of all participants this year. This added to the complexities of organising the competition but the CMS staff and competition committee were happy to continue to foster mathematics interest among the youth.

This year, as part of CMS' "Closing the Gap" initiative, the CMS sought to increase participation of Black and Indigenous students in its activities and sponsored their participation in the Gray Jay and COMC. Black and Indigenous students who participate in the competition also run the chance to win 500 dollars for their classroom. To better prepare students for the competition, the Society also organised a series of webinars focused on Indigenous epistemologies, unconscious biases and competition prep. The webinars were great success and we hope to expand on them and create more opportunities for mathematics educators and students to tackle equity issues in the community.

The CMS has never been prouder of its young Olympians who showed that no challenge is too great for them. Girls' Math Team Canada participating at the European Girls' Mathematical Olympiad had to change its plans within a short delay to write the competition virtually. A disappointing news which meant that they will be deprived of an important aspect of the Olympiad, the gathering of young women mathematicians and their mentors. Despite the challenges and uncertainties, they managed to win one silver medal, one bronze medal and an Honourable mention.

Math Team Canada participating at the International Mathematical Olympiad too had to switch to virtual and could not make the trip to Saint Petersburg, Russia. Furthermore, the competition was postponed to September in the middle of the school year and training had also have to be moved online. But the team had one of its best performances in the history of Canada's participation in the IMO. The team members, who wrote the competition in Toronto, won three gold medals, one silver and two bronze medals.

The CMS is also grateful for the hard work and dedication of team leaders, trainers, proctors and everyone involved in the EGMO and the IMO.





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#### Meetings/Zoomings

CMS staff, participants and the organising committee were disappointed by the cancelation of the CMS 75th anniversary summer meeting. This did not, however, discourage these hardworking people, they are making sure the CMS 75th+1 anniversary Summer Meeting could be a meeting to remember. The focus then went into finding a way to address the concerns and anxieties of educators who had to change their teaching style and accept the caprices of online teaching. In the course of a few short and busy weeks, CMS staff and volunteers managed to organise a virtual meeting, a first for the CMS, to discuss research and education during the pandemic. The participation and discussions surpassed our expectations and some sessions will continue in the [2020 virtual Winter Meeting](#). The CMS also held sessions on K-12 math education and hopes to continue the relationship with K-12 teachers and organise more events focused on math education for younger students. Indeed, the enthusiastic participation and discussions that took place during the meeting was an antidote to our disappointment and demoralisation following the summer meeting cancelation. Despite the hard times, we saw the possibilities for creativity and new horizons ahead of us for the years to come. We are excited to continue the stimulating discussions during the Winter Meeting, albeit virtually, and are hoping to gather again in better times.

#### Workshops for the public service employees

In the collaboration with University of Ottawa, CMS was able to run the first set of online workshops for the government employees. The first of these workshops were held virtually in October and was a great success. Some 30 public employers participated in the first round of these workshops and around the same number is expected for the second workshops in December 2020.

#### Survival of the CMS

While everyone at the Society has been working hard to implement new initiatives to help the mathematical community fare the hard times, Summer meeting cancelation, the change in format for Winter Meeting and the impact of COVID-19 on the competitions, and that of the open access on publications, they have all had serious financial impacts on the Society. The CMS is seeking new ways to regain its financial stability. Here is how you can help:

#### *House of Mathematics*

After much elaboration and calculation, the CMS board members came to the conclusion that the soundest financial decision in the moment we are experiencing would be for the CMS to own its own residence, the House of Mathematics. Such a House would not only improve the financial situation of the CMS, but it will also be a place for the Canadian mathematical community. The Society is urging members to generously contribute to this project and help the CMS find a permanent residence

Canadian mathematical community, the Society is asking members to generously contribute to this project and help the CMS find permanent resources.

#### *New Sponsors for CMS Competition*

The CMS is currently seeking sponsors for its mathematical competitions for high school and elementary school students, the Canadian Open Mathematics Challenge and the Canadian Mathematical Gray Jay Competition. The Society encourages the members to let the CMS staff know of sponsorship opportunities within their networks.

#### Looking Ahead

Whether a vaccine can be envisaged for the next few months is not a certainty. What, however, is certain, especially in the view of the current crisis, is that mathematics is important and touches many aspects of our everyday lives. Numerous interviews with epidemiologists, mathematical biologists, the parade of graphs predicting and explaining COVID trends, and the impact of mathematics in both public health and economic policies, they all attest to the role mathematics plays in our personal and social life. The CMS will continue to work tirelessly for the community in the year ahead.

With the help of our staff, our volunteers and our members, we will form closer relations with communities whose epistemology and perspective have been invisibilised in the community and seek to make the Society a dynamic and open venue for teaching, research, and learning in 2021

On a more personal level, this year my husband and I celebrated the birth of our first child, Farid Kian, who brought lots of joy, hope and love into our life. During my absence, Yvette Roberts is taking care of the executive office. I am looking forward to be back in the office next Fall. I would like to thank all the CMS staff for their hard work, dedication and help during my leave.