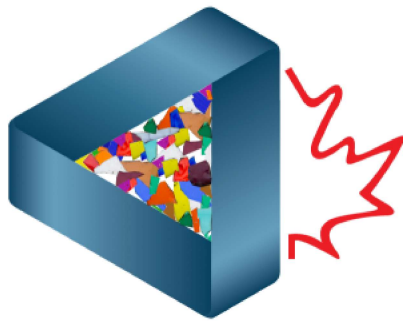


Karen Meagher (University of Regina)



*MOSAIC, Outreach, Society, Accessibility, and Inclusiveness Column is directed by the CMS EDI committee and touches upon issues concerning equity, diversity, and inclusion in mathematics. Comments, suggestions and submissions are welcome.*

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On June 2nd and 3rd the CMS Women in Math Committee organized, along with two local organizers, Dr. Campbell and Dr. Moura, the 6th Connecting Women in Math Across Canada (CWIMAC) Workshop. This is a workshop aimed at young female-identified researchers in mathematics, with the primary goals of building research and support networks and developing professional skills.

As a PhD student, I attended the first CWIMAC in 2003. It was a valuable experience for me and I wanted to make sure the next generation had the same opportunity. One aspect of this workshop that was particularly effective is that it was held in the days before the CMS summer meeting. In the smaller CWIMAC workshop, we quickly made connections with the other researchers. Once these connections were made, it was much easier to meet more people at the larger CMS meeting and to become part of the mathematics community.

## The Planning

The original plan for this workshop, first put in to motion in October 2019, was to have the CWIMAC in person in the days before the CMS 75th anniversary in Ottawa. As this was scheduled for the ill-fated summer of 2020, it did not happen as planned! First the CMS delayed the 75th anniversary meeting by a year, so we did the same with the CWIMAC; next, the CMS announced the meeting would be entirely on-line, so we also did the same.

Once we had committed to an all on-line event the main concern was how to build networks when we would be spread across the country and only able to see each other in those tiny little Zoom windows we have now spent too much time in! But we felt that building community was even more important after all being so separated during the pandemic lock downs. Graduate school can be a stressful and lonely experience for students at the best of times; experiencing this while not being able to leave your home could be unbearable!

Beyond the isolation, parents were trying to do their classes and research with children out of school or care, and many of us were attempting to care for elderly parents at a distance. There are many studies and reports on how women have been more adversely affected by the pandemic, as these care-giving duties disproportionately go to women. This was another reason why we felt it was so important to hold the CWIMAC, despite not being able to meet in person.

## The Event

The first event was a talk by Dr. Anita Layton, the Canada 150 Chair in Mathematical Biology and Medicine, University of Waterloo. Dr. Layton gave a very personal presentation about her own struggles with the networking aspects of her career. She gave very sympathetic advice on how to embrace this potentially uncomfortable, but very necessary skill to advance our careers. Half way through the talk, we used the breakout rooms feature of Zoom to practice giving an "Elevator Speech". So in just a few minutes the students in the breakout rooms had to outline their research and career plans. This also ensured that every student talked in a smaller group and got us started on networking.

Alexandra McSween, President of the AWM student chapter and Women in Math Club at the University of Ottawa, gave a presentation on the history of Women in Math. This was a very engaging talk that introduced many different topics. After this presentation we met using the platform GatherTown to discuss the many issues that came up in Alexandra's presentation. (Special thanks to Dr. Erin Meger for setting up a lovely space in which we could virtually wander and have conversations.) This was surprisingly effective, as participants could talk in larger groups if they wanted, or move off to speak privately if they preferred. This room was available for the entire meeting and it worked well for networking.

On the second day of the workshop, Dr. Gerda de Vries, University of Alberta, gave a presentation on how to give effective math talks. This was followed by research talks from five early career researchers. This was an important part of the workshop, since we are trying to build research networks. The students had only a short time for their presentations, despite this the talks were really great, I was impressed at how accessible they were.

We also had two panel discussions. One on how to move your career to the next stage, and the other on coping during Covid.



### Take-Aways

There were definitely some advantages to doing the event on-line. Everything was much cheaper, no travel expenses or coffee to pay for. The organizers didn't have to do some of the tedious tasks involved in planning an event, like ordering food or booking rooms. Parents of young children didn't have to find childcare (and the children in the background of some presentations were pretty cute, at least for those in the audience!). Our attendance was record-breaking and we had people from all across Canada and also from many different countries. In the future we will definitely do other events on-line. Perhaps the impact is less with an on-line event, as it is hard to be personal over Zoom.

It was challenging to organize this event, since at each point we had no idea what to expect. We had to think about how to reorganize once it was clear the workshop would be on-line. We also had to learn how to host an event on-line, both the technical and the social aspects had to be worked out. It was a steep learning curve, but now we know better what we are doing! Beyond this, the organizing committee, like everyone, was struggling with working from home and often with children in the room—hopefully this will not happen again.

In future events I think we should have more student panels. More seasoned academics need to know what concerns and challenges students face! We also found that breaking into smaller groups worked well to get conversations started and to allow more people to talk. This is something we will do more with future on-line events. In retrospect our focus was too much on academic careers, so we will look to have more involvement with mathematicians in industry. At an on-line event we are not restricted by geography, we can invite people from all over the world without concern for the travel costs and hassle, so in future events we will work to have more diversity in the panelists and speakers. There was a strong interest from the graduate students in getting advice on how to find a work-life balance and having a family and a career, so this will be a topic (hopefully with sound advice) at future events.

### The Next Event

The next event the CMS WIM committee is planning comes straight out of a suggestion from an attendee at CWiMAC. Next summer we will have an on-line event focused on how to get a job. The goal will be to develop skills like how write a strong research statement, what to expect at a job interview and how to assemble a strong application package. Announcements for this workshop will come out closer to the date. The CMS WIM will be looking for volunteers to help with this event!

### Final Note

One final note, is that almost the entire CMS WIM committee changed while this event was planned, and then re-planned. The organizers of the CWiMAC were: Lucy Campbell, Carleton University, Ailana Fraser, University of British Columbia, Matilde Lalín, Université de Montreal, Karen Meagher, University of Regina, and Lucia Moura, University of Ottawa. I just want to say that it was an excellent experience to organize an event with such awesome women!

We are grateful for the funding that we received from PIMS and the Fields Institute, also for the funding that was offered from AARMS and CRM that was not needed in the end.

Here are some of the feedback we received from participants:

*"Women, along with other SOGIESC minorities, have been disproportionately affected by the pandemic. Thus, it was an uplifting experience to be a part of the coming together of women mathematicians in Canada, not only to talk about Mathematics, but also to check on each other, and discuss the unprecedented impact of CoVid-19 to women at large. Events like CWiMAC 2021 that serve as safe spaces for women, as well as avenues for women to express solidarity for other women, are always a step in the right direction."*



**Hermie Monterde**  
Graduate student, University of Manitoba

*"CWiMAC was a really fantastic experience for me. It came at a time when I was nearly finishing my MSc after working at home alone for over a year so it was especially valuable to me to be able to connect with other women. I've managed to stay in contact with many of the women I met there and I'm really thankful I got to meet them! I thought that GatherTown worked really well and I had a couple really great spur of the moment conversations in there, much like an in person setting."*



**Alexandra McSween**  
Graduate student, University of Ottawa

*"The workshop was excellent. Having such a diverse group of women across career stages was very beneficial. As an early career researcher who was on the job market at the time of the conference, it was very useful getting advice not that wasn't restricted to only career balance."*

*Discussing mathematics with women feels much safer to bring forward my ideas, it feels easier to make big outlandish claims and work together to prove them -- the collaboration and support mathematically is very different from a general conference. It was great to talk about the struggles in the mathematics itself, and learn how to be a better researcher from the perspective of women."*



**Erin Meger**  
Post-Doctoral Researcher, LACIM

Karen Meagher is a full professor in the Department of Mathematics and Statistics at the University of Regina and the Chair of the CMS Women in Math Committee. My research area is in discrete math, focusing on algebraic graph theory and extremal problems in combinatorics.