Part II

0. **Institution Name:** Queen’s University

1. What is your vision for the conference?

Our vision for the Canadian Undergraduate Mathematics Conference is the mixture of diversity, collaboration and curiosity within the field of mathematics. Research and industry in mathematics rely heavily on sharing and discussing ideas with other people, as well as making connections with seemingly disjoint research fields. We hope to foster such a collaborative non-competitive environment to promote students to work together towards a joint goal. Moreover, the CUMC is an incredible opportunity to bring together those who are passionate about mathematics from a wide array of different backgrounds. We plan to emphasize through collaboration the importance of gender, racial, geographic and socioeconomic diversity in the continued development of the mathematics discipline. Such diversity allows for new ideas and different ways of thinking to be shared, which is crucial in mathematics and should be celebrated. Another type of diversity we want to emphasize is the interplay between pure and applied mathematics. At Queen's, we are fortunate to have the Pure Mathematics and Statistics program, as well as the Mathematics and Engineering program, which focuses on applied fields. We hope to bring this aspect of Queen's to the conference allowing people to make connections between both sides of mathematics. We also plan to foster a bilingual setting for both student and keynote speakers to feel well respected. Overall, we aspire to host a supportive and encouraging environment throughout the five days of the conference which will allow attendees to collaborate, learn and grow from one another, while simultaneously cultivating meaningful and lasting relationships. The conference will focus on sparking attendee’s curiosity through talks which cover a wide array of topics within the field of mathematics.

2. Which aspects of the CUMC do you think work particularly well and

would continue to be included in your iteration of the conference?

There are many aspects of the CUMC that we think work well and would continue to include alongside the new ideas that we would like to implement. We greatly value the core principles of the CUMC and recognize the importance of providing a bilingual, non-competitive, and regionally diverse environment. We also realize that a series of student talks and daily keynote presentations are the foundation of this conference and it is our priority to ensure this remains unchanged. Some specific academic events we will continue to include are the question/answer style panels, software workshops, and the poster session. We thought the panels arranged by the organizers of this year's conference, held at the University of Saskatchewan (U of S), were extremely beneficial because they built a dialogue between students and knowledgeable professionals in mathematically related fields. The software workshops are a good opportunity for participants to learn or build upon their skills while using various software programs to appeal to a wide range of people with various levels of experience with programs such as Mathematica or Maplesoft. We also believe that a poster session, like the one run at U of S, is a great opportunity for students to give presentations in a different, more casual setting and allows more attendees to get involved without necessarily giving an entire student talk.

As exemplified in the previous conference, the CUMC's objective is to bring students together from all across Canada while cultivating friendships and connections based around a mutual interest in mathematics. To achieve this, we plan on hosting an opening and closing banquet in the middle of the conference to maximize attendance. As previously done, we will also give frequent coffee breaks, and schedule evening activities. These events have always been a staple at the CUMC because of how fun they are and how easy they make it to meet new people, which is something we strongly encourage. Another way in which we plan to strengthen the connections among attendees, is to host plenty of optional social activities in the evenings, in addition to the fixed conference-related events during the days. In addition, Conference Kits for all attendees including branded mugs, lanyards, t-shirts, conference schedule with abstracts,

notebooks, pens, and mathematics related merchandise will provide a warming welcome. We would also like to keep the structure of the student talks used in previous years. Giving 20- 30 minute time slots with a few talks being held in different rooms at the same time in order to give the opportunity for everyone to attend a talk that would interest them.

3. Which aspects of the CUMC would you improve upon and how? Are there any new ideas that you would like to bring to the conference?

There are some features relating to the keynote and student talks that we would like to improve upon. For the question periods which follow student talks, we plan to prepare questions beforehand, based off of the speaker's submitted abstract, to initiate and stimulate conversation. At the past conference, a number of the keynote speaker talks were understood only by people which already had an acquaintance with the topic. To address this, we will ensure that the speakers we contact recognize the attendees' varying levels of familiarity with mathematical topics. We have also contacted faculty members at Queen's which have expressed their support and recommended speakers which they are confident can provide interesting and accessible talks. To aid in hosting inclusive talks, we plan to offer two types of keynote talks. One type would be technical talks, where keynotes speakers introduce students to their research. The second would be mentoring talks, where the keynote speaker would illustrate their experience and journey, starting from their initial mathematical curiosity all the way up to today.

Another set of improvements that we would make are social and logistical related. We will host social events every night before the last day of the conference to give students a chance to relax and make connections in a nonacademic setting. There will also be a detailed list of recommendations in the welcome booklet on restaurants and activities around Kingston. In order to make it easier for students to attend talks, we will provide campus maps and ensure appropriate directions around buildings are included.

As for new ideas, we plan to incorporate technical collaborative mathematics workshops. Here, a professor will introduce a topic that mixes different general research areas giving students the opportunity to learn about a new mathematical subject matter. This will be followed by a collaborative session where students work with one another to solve sets of problems on the topic. We hope that such an activity encourages students to collaborate, share ideas, and delve into different areas of mathematics. We have discussed this idea with the department and have received a positive response with a promise of support, including a commitment to find people to guide such workshops. Furthermore, we see the value in hosting software workshops, but would like to host 3 of them separately, each focused on a different field of Mathematics. Tentatively, we would like a workshop in Mathematica or Maple for those interested in pure mathematics, one in MATLAB for applied mathematics, and another in R for statistics.

Another idea is to give an opportunity for students to network and learn about potential education and career paths after graduation through graduate school booths, and a career fair.

4. What are your proposed dates for the conference and why?

Our first set of proposed dates for the CUMC hosted by Queen's University are Wednesday July 3, 2019 to Sunday July 7, 2019. There is a busker festival taking place in Kingston from July 6-9, 2019, which would provide activities for the attendees as well as an interesting atmosphere in the downtown area. Kingston hosts a great deal of events and festivals during the summer months, and as these dates are selected during the year we will adjust our evening activities to include them.

The alternative dates for the conference will be between Wednesday July 31st to Sunday August 4th. Having the CUMC during these dates will also offer some unique Kingston festivities such as the Annual Kingston Food Festival which is an important aspect of our community. With the plethora of restaurants in town,

this festival would give attendees the ability to experience multiple different aspects of our Kingston tastes. As both these dates have had enjoyable weather this will allow visitors to be their most comfortable during the summer months.

5. What are the unique aspects of your proposed conference location (institution, city, etc), that would add to the conference experience and why?

Kingston is home to Queen's University, the Royal Military College of Canada, and St. Lawrence College, and the city has grown around all of these universities, while acquiring a vibrant and active social life, and providing many opportunities for students and the town alike. Kingston has the highest number of restaurants per capita in Canada, and is among the best ranked university towns in North America. A beautiful waterfront and marina, picturesque hiking trails, charming downtown area (a 15 minute walk from campus) including shops and restaurants, and rich history are a few of the things that encompass Kingston's culture. Additionally, the university itself offers an interesting historic background as Queen's University was founded in 1841, the same year Kingston was named the capital of the Province of Canada.

The Queen's University Mathematics and Statistics department is lucky to house so many internationally recognized teaching and research professors, such as N. Yui, P.D. Taylor and M. Roth in pure mathematics, two winners of the Coxeter James Prize in M.R. Murty and G.G. Smith, A. M. Herzberg and D. J. Thomson in statistics, and A.D. Lewis and S. Yuksel in applied mathematics. Their notable experience, unique teaching styles and engaging research improves and provides recognition for our department and university as a whole. Apart from the impressive faculty, Queen's University is also the home of the Mathematics and Engineering program, a program unique in Canada.

Kingston is conveniently located relatively close to other cities and large Canadian universities, making it a perfect location to host students and keynote speakers from various institutions. Kingston is under a 2 hour drive from

Ottawa, Ontario which houses the University of Ottawa as well as Carleton University. It is also under a 3 hour drive to Toronto, ON which houses the University of Toronto, York University and Ryerson University. Other universities within reasonable distance include Wilfrid Laurier University and the University of Waterloo in Waterloo, ON, the University of Guelph in Guelph, ON, McMaster University in Hamilton, ON, Western University in London, ON, as well as McGill University, Concordia University, Université du Québec à Montréal, and Université de Montréal all in Montréal, Québec.

6. How will you do your best to ensure the conference attracts as many attendees as in the past or more?

To ensure that the conference attracts as many attendees as possible, we will run a variety of advertising activities. To start, we will contact the mathematics departments of nearby universities. Connecting with these institutions early on and at various times throughout the year will allow them to properly advertise the conference to their students and staff. We will be preparing a press kit with the help of the University Relations portfolio to give to other universities to help them appropriately distribute information about the conference.

Our team will establish an attractive and reliable website that outlines the conference and our objectives. The website is where students, professors and universities can find all information related to the conference, including registration applications, abstract submission application, proposal and funding information, sponsors, ways to get involved, and itineraries for the conference. In order to reach as many attendees as possible, we will also create an easily accessible Facebook page to provide quick updates on new information as the year progresses.

Following our theme, we want the conference to be open to everyone regardless of financial limitations, disabilities, geographical location and prior mathematical knowledge. As a way to compensate, we will be subsidizing the travel costs for students that demonstrate financial need. As discussed previously, there will be

talks that are open to students of any mathematics level and we hope this will encourage more students to feel welcome and attend the CUMC at Queen’s. An interest in mathematics is all you need for our conference and we will ensure that this is emphasized on the website, Facebook page, and in any advertising material.

These measures, combined with Queen’s University’s central location in Canada will ensure high attendance rates for a successful and informative conference.