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Application Form for the CMS 2019 Endowment Grants Competition

Deadline September 30

Title of Proposal

Outreach to Schools Initiative

Contact information

The one person and place to communicate with the applicant(s).

Name

E-mail

Telephone

Fax

Institution or department to administer grant funds

Name

Address

Contact

E-mail

Telephone

Fax

Summary

Less than 100 words

Total amount requested in this competition \$

We are seeking funding to expand our outreach into elementary, middle, and high schools. We wish to coordinate a robust program that will bring volunteers from the Department of Mathematics into school classrooms to deliver hands-on math workshops on topics not covered in the Ontario curriculum. The program would put significant emphasis on reaching students in under-served, lower income areas who would not otherwise be able access math enrichment activities.

Applicants

Put any specific information on the relevant experience or expertise of an applicant in "Other".

Name(s)	<input type="text" value="Jeremy Quastel"/>	<input type="text"/>	<input type="text"/>
E-mail	<input type="text" value="quastel@math.toronto.edu"/>	<input type="text"/>	<input type="text"/>
Position	<input type="text" value="Chair, Department of Mathematics"/>	<input type="text"/>	<input type="text"/>
Employer	<input type="text" value="University of Toronto"/>	<input type="text"/>	<input type="text"/>
Address	<input type="text" value="40 St. George St"/>	<input type="text"/>	<input type="text"/>
	<input type="text" value="Room 6290"/>	<input type="text"/>	<input type="text"/>
	<input type="text" value="Toronto, ON M5S 2E4"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/>	<input type="text"/>	<input type="text"/>
CMS Member #	<input type="text" value="005106"/>	<input type="text"/>	<input type="text"/>
Current grants	<input type="text"/>	<input type="text"/>	<input type="text"/>

What you propose to do

at most 40 lines

The Math+ (the Mathematics Outreach Office at the University of Toronto) offers many high-caliber math enrichment programs, but our flagship brand—what we are most proud of and most passionate about—is our programs that offer hands-on math activities to inspire youth to love mathematics. These programs make up the backbone of our programming year, including our youth clubs, camps, pavilion events (Science Rendezvous, Alumni Weekend, math fairs), and school field trip program. We are now ready to launch a new program to bring our particular brand of math programming into public schools, particularly schools in low-income areas.

The motivation to work with schools in low-income areas comes from a few directions. First, stagnant and falling EQAO math scores in low-income areas indicate that math learning is in a crisis. We believe that one component of this crisis is the bad reputation math has as difficult, dry, and stressful—not intriguing, beautiful, and mysterious as our volunteers know it to be. Second, schools participating in our math field trips program (where students come to U of T/Fields Institute for workshops) have tended to be from higher income areas, including some private schools. Many of the students participating in our clubs and camps will also be from higher income families. We want to make our programming accessible by bringing it directly to students and schools that are least likely to access high quality math enrichment activities. Third, graduate student volunteers in the Department of Mathematics have expressed a desire to go into grade-school classrooms and share their passion for math and they want to do so in a way that makes a difference for the students involved. By going directly into classrooms, we hope to impact more students, as the logistics of sending a small number of volunteers to a school should be simpler for us than organizing a field trip is for the teacher and school. It also requires no transportation costs for the school, making it a better option for schools that have limited financial resources and that are a long distance away from U of T. We also hope to inspire the teachers in the classrooms to see math in a different light.

It should be noted that Math+ is already involved with trying to improve the crisis in elementary math teaching through the Count Me In Teachers' Institute in collaboration with the Ontario Institute for Studies in Education. This summer conference is designed specifically for teachers who hate teaching math and/or feel underprepared to do it. The institute attempts, in equal measure, to build teachers' capacity and to inspire them to see math as an intriguing and beautiful subject.

Our existing school visits program puts us in a good position to launch this program as we have an existing structure in place for training volunteers, an archive of curriculum, and a pool of volunteers who are eager to make a difference out in the community. We have experience working with schools through our pilot of the Count Me In afterschool math club, which attempted to transplant our math club model into an underprivileged school in 2017 and 2018. We will be finessing our execution of the Count Me In program for grades 4, 5, and 6 in 2019-2020, most notably to run during class time. Count Me In will be a special program within a program, a sub-set of the greater outreach to schools initiative. This is because while students at any grade level can benefit from and enjoy creative math programming, our research has indicated that it is in grades 4, 5, and 6 that students are deciding whether or not they like math and whether math is "for them." Thus we want to put special emphasis on working with classrooms at these grade levels on a repeat basis—schools will receive a minimum of a two-visit lesson with option to renew for more two-visit blocks.

The main part of the outreach to schools initiative will be for any grade level from 1 to 12 and will consist of single visits to a classroom of approximately 1-2 hours. We are aiming to complete a minimum 20 visits in the first year of operation.

Such a program requires considerable coordination with schools and volunteers and as Math+ is a fully self-funded unit, we are seeking your assistance to help pay for salary costs for the coordinator, as well as craft supplies and volunteer transportation (subway tokens). While Count Me In—for grades 4, 5, and 6—is currently funded through an NSERC SciencePromo grant, we have no existing funding for our general outreach to schools program. We would like to invite the Canadian Mathematical Society to be our lead funding partner on this important new initiative.

Budget

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Description	Revenue		
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
CMS Endowment Grant requested	2500	<input type="text"/>	<input type="text"/>
Total Revenue \$	2500	<input type="text"/>	<input type="text"/>
	Expenses		
Volunteer Transportation (Transit Costs)	300	<input type="text"/>	<input type="text"/>
Coordinators	1500	<input type="text"/>	<input type="text"/>
Materials	500	<input type="text"/>	<input type="text"/>
AV Equipment	200	<input type="text"/>	<input type="text"/>
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total Expenses \$	2500	<input type="text"/>	<input type="text"/>

Other *Funding, partners, revenue potential, information on applicants such as publications or awards, at most 20 lines.*

Project start date

Finish date