



UNIVERSITY OF  
TORONTO

DEPARTMENT OF  
MATHEMATICS

# DEPARTMENT OF MATHEMATICS NEWSLETTER

Outreach and Special Projects Edition  
June 2, 2012

*(Prepared in Honour of Spring Reunion 2012)*

## MESSAGE FROM THE CHAIR



We live in an increasingly mathematical world. The tools of mathematics are being used to model, analyze and innovate in all aspects of human society. As Canada's leading center for research and teaching in mathematics, the Department of Mathematics at the University

of Toronto has been home to generations of students and teachers who have participated in the exciting adventure of mathematical discovery and application. And we hope to welcome the next generation of such innovators as well. I am delighted that alumni are staying in touch and getting acquainted with the exciting recent developments in the Department. I am also delighted that our Outreach activity has really taken off and we are able to connect directly with future generations of mathematical innovators. A warm welcome to everyone!— *Professor Kumar Murty*



## MESSAGE FROM THE ASSOCIATE CHAIR (RESEARCH)

The mission of the Department of Mathematics at the University of Toronto is to advance human understanding of mathematics through research and teaching. The Department is the historical bricks-and-mortar epicenter for research advancement and teaching in the mathematical sciences in Canada. Cascading consequences of the invention of the digital computer, by mathematician John von Neumann, provide opportunities and challenges for a tremendous advancement in world-wide research capacity. The Department is developing strategies and deploying infrastructure with the goal to massively advance mathematical capacity in Ontario, in Canada, and across the globe. Over a twenty year time horizon, the research and education aspects of our mission coalesce: third graders today will be postdocs twenty years from now.—

*Professor James Colliander*



# WELCOME



*Handing out awards at this year's Math Kangaroo competition*

## Photo Credits

Our sincere thanks go to Richard Cerezo, Marco De la Cruz-Heredia and the multitude of parents who helped provide us with these wonderful pictures.

More are available on our website.

It is my great pleasure to write to you today as the Department's new Outreach and Special Projects Coordinator. Some of you may know me from my previous role in the Department as the Executive Assistant to the Chair and you may know that during my time in that role I worked with many Department members to develop, build and improve outreach and enrichment opportunities within the Department and with other organizations. During the past two and a half years we have built upon many programs in the Department including the Math Kangaroo competition and the Department's involvement in Science Rendezvous. In addition we have increased the number of school visits to the Department and Fields Institute, secured the Department's leading role in the marking of the Canadian Open Mathematics Challenge and developed other programs aimed at increasing the Department's reach and involvement in the pre-university community. In my new role I aim to continue building on current programs, introduce new programs and find new ways for students, faculty, staff, alumni and the general public to be involved and interact with the Department on a whole new level.

As such, the purpose of this newsletter is to give an overview of what's been going on so far in the Department and what we have planned in the future. It's also an opportunity to find out how you can be involved and lend a hand to making these programs grow and truly increase the reach of Mathematics to pre-university students and general public. I hope that you will enjoy seeing what we've been up to in the past few months as well as a sneak peak of what's coming up.

Then, if you'd like to be involved, we've got an entire section at the end dedicated to how you can help!

Further information on all programs can be found at [math.escalator.utoronto.ca](http://math.escalator.utoronto.ca) and keep an eye out there for our next newsletter which will profile even more programs and those that have helped make them happen.

Sincerely,

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# OUTREACH AND ENRICHMENT ACTIVITIES

## Recent Programs

### MATH KANGAROO

The International Math Kangaroo Competition is a 60 minute, multiple choice contest open to anyone in Grades 2–12. It takes place each year in the spring.

This year the competition was held on Sunday, March 25th and was attended by over 900 students across the University of Toronto's three campuses.

High scoring students were then honoured at our Award Ceremony which took place on Sunday, May 27th. In total over 250 students from the GTA won regional and national awards.

### SCHOOL VISITS

In an effort to reach out to schools and students in and around the GTA we offer school visits for teachers and their students to come to the Department, speak with faculty, tour the facilities and participate in fun math activities. It's a way to give them a taste of the mathematics experience!



*This year's Math Kangaroo competition had a record breaking turnout of participants.*



*Learning math with Lego*

### SCIENCE RENDEZVOUS

Science Rendezvous is an all day, National Science festival that takes place each year on the Saturday before Mother's Day. This year that was Saturday, May 12th.

For the past three years the Math Department has had an ever growing display at the festival and this year we once again took over the main floor of the Fields Institute to welcome hundreds of participants to find out all about the wonderful world of mathematics!





# UPCOMING PROGRAMS

## CANADA MATH CAMP

In partnership with the Canadian Mathematics Society the University of Toronto, Department of Mathematics is pleased to offer the 2012 Canada Math Camp.

This camp is a chance for those with high scores on the Canadian Open Mathematics Competition to come to the University and experience mathematics at its finest. It is also a chance for them to train for the International Mathematics Olympiad.

This year will mark the first time that the Camp is held at the University of Toronto where we are hoping to give it a permanent home.

## SCIENCE SUMMER CAMP

Working with various departments at the University we are proud to be involved with the inaugural Science Summer Camp.

This is a one week camp that will offer students the opportunity to learn and explore various aspects of Science, Math and Technology.

The camp is aimed at students finishing Grade 10 and 11 as a way to encourage them to seek out possibilities in these subject areas as they complete their high school degree.

## CLASSROOM ADVENTURES IN MATHEMATICS SUMMER INSTITUTE

Building on a program that was developed last year we are offering, in collaboration with the Canada Math Camp, a Summer Institute for Teachers where they can come, listen to lectures on various math topics and gain valuable resources that they can take back to their classrooms in the fall.

This is just a taste of the programs we offer. More information on all the programs mentioned here (and more) can be found at [math.escalator.utoronto.ca](http://math.escalator.utoronto.ca)

## HOW YOU CAN GET INVOLVED

### VOLUNTEER

We are always looking for members of the department and alumni to help with these programs. From organizing to speaking to groups of students extra help is always appreciated.



### SUBMIT A STORY OR ARTICLE

Our webpage is always seeking new and interesting article and stories about mathematics and what to do with a Math degree. We also have a “Fun Stuff” section where visitors can test their skills with mathematical riddles and teasers and we can never get enough of those.



### DONATE

As with any program funds are always needed to give participants the best experience possible. Your gift supports the Department of Mathematics’ tradition of excellence in education and research.

Ways to give:

- Make a secure gift online at:  
<https://donate.utoronto.ca/math>
- Call Laura Clark, Senior Development Officer, Leadership Giving, at 416-978-2720
- Mail your gift to:  
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