

Mathematics Council NEWSLETTER

The Alberta Teachers' Association

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President's Message

The Mathematics and Science Councils are busy finalizing arrangements for our joint conference October 23–24 at the Fantasyland Hotel in Edmonton. If you haven't registered yet, please do so soon, as we anticipate selling out this conference. There will be two keynote speakers—Chris Hadfield and Steven Strogatz—and numerous breakout sessions. On October 22, a robotics workshop will take place at the preconference symposium. Registration links for both the conference and the symposium are on the MCATA website. I look forward to seeing you there.

John Scammell

MCATA Fall Conference: "Geeks Unite"

A Joint Conference with
the Science Council

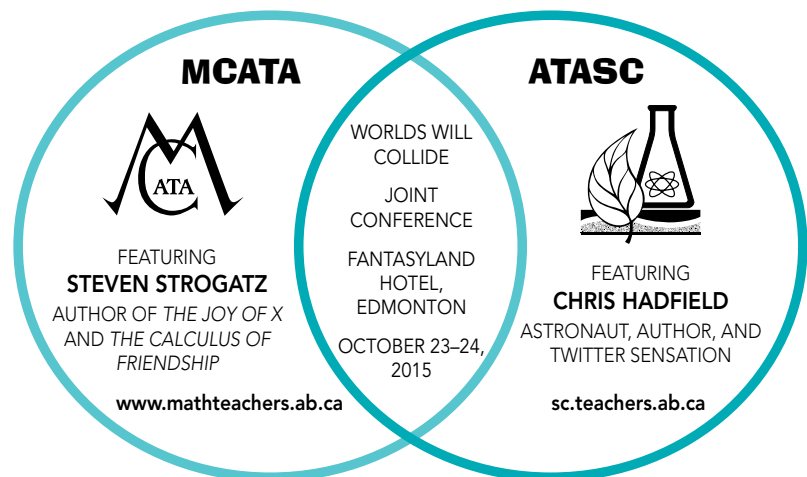
October 23–24, 2015

Fantasyland Hotel,
Edmonton

Guest Speakers: Steven Strogatz
and Chris Hadfield

For more information and to register,
go to mathteachers.ab.ca.

"GEEKS UNITE"



FINE PRINT: WE ANTICIPATE THAT THIS CONFERENCE WILL SELL OUT. REGISTER EARLY TO AVOID DISAPPOINTMENT. REGISTRATION LINKS ARE ON BOTH COUNCILS' WEBSITES.

Big News!

After careful consideration MCATA has decided to take distribution of our newsletter electronic starting in January. Please look for an e-mail from the address mathcouncilata@gmail.com that will include a link to the PDF. Consider adding this address to your address book so that the e-mail does not end up in your junk folder.

May 2015 Executive Meeting Summary

The last meeting of the 2014/15 school year focused on planning the joint conference in October as well as the next two fall conferences. There was some discussion about the change in weighting of the diploma exams starting in September 2015 for students taking a diploma exam for the first time. Executive members planned to attend the Annual Representative Assembly, Summer Conference and Consortia meetings.

TERM Meeting for the 2015/16 School Year

TERM (Teachers of Mathematics in the Edmonton Region) will be meeting on Monday, November 2 and Monday, April 11. Location and time will be announced at a later date. Please contact Donna at donnajc@telus.net for details.

Contest Winners

2015 Edmonton Junior High Math Contest

Edmonton Junior High Math Contest 2015 Winners
Top School: Vernon Barford (Lexi Gao, Poplar Wang, Mark Nie)
Top Student: Lexi Gao and Poplar Wang (Vernon Barford)

Alberta High School Math Competition 2014/15 Winners

CRC Scholars First Place: Anna Verkhovskaya (Western Canada High School) and Ruiming Xiong (Western Canada High School)

Calgary Junior High Mathematics Contest

Top Student: Richard Kang (John Ware School)
For full details of the contests, solutions and contest winners, please visit www.mathteachers.ab.ca.

Alberta Education Message

In June 2014, Alberta Education clarified the expectations of the Alberta K–9 Mathematics Program of Studies by updating the program of studies and support documents. The updates clarified the expectation of recall of addition, subtraction, multiplication and division facts as well as the expectation that students investigate a variety of strategies and become proficient in at least one appropriate and efficient strategy (strategies may include traditional algorithms such as long division and vertical addition). The clarifications also reinforced that Alberta Education does not prescribe any specific instructional approach; teachers have the flexibility to determine the instructional approach to help meet their students' needs.

Building on the clarifications made in June 2014, Alberta Education is focused on continuous improvement and is using feedback to take a systemic approach to further refine our mathematics curriculum. This includes expanded professional learning opportunities for teachers at no cost, identifying additional program support resources and reinforcing the basics through provincial assessment.

Mathematics Professional Learning Opportunities: Elementary Mathematics Professional Learning

In the 2015/16 school year, a series of learning opportunities will be offered across the province at no cost to teachers and will also be available for preservice teachers. These learning opportunities will provide additional support to teachers in the areas of mathematics content, assessment, choices for instructional practice, resources and communicating with parents. These learning opportunities will extend throughout the 2016/17 school year and beyond. Check the Alberta Regional Professional Development Consortia (ARPDCC) Learning Portal or contact your Regional Consortium for updates and registration.

Mathematics Resources

Alberta Mathematics K–9 Achievement Indicators 2015

The Alberta K–9 Mathematics Achievement Indicators have been updated for September 2015. The updates include the addition of achievement indicators in the Grades 2–5 Number strand outcomes related to operations. To support the implementation of these 2015 updates, Alberta Education has prepared a *Summary of Updates to: Alberta K–9 Mathematics Achievement Indicators* and the fact sheet, *Sample Standard/Traditional Algorithms*. All of these materials are posted on Alberta Education's mathematics webpage: <http://education.alberta.ca/teachers/program/math.aspx>.

Additional Support Resources for K-9 Mathematics

Alberta Education developed a list of resources in collaboration with teachers and administrators throughout Alberta to provide further support for the Kindergarten to Grade 9 Mathematics Program of Studies. These resources are not part of Alberta Education's Authorized Resource List, but are additional support resources for teachers to consider for use in their classroom. The list of additional support resources are posted on Alberta Education's mathematics webpage (<http://education.alberta.ca/teachers/program/math.aspx>) and will be updated on an ongoing basis.

Alberta Mathematics High School Support Resources

Alberta Education developed a series of videos in English (<https://education.alberta.ca/teachers/program/math/videos.aspx>) and French (<https://education.alberta.ca/francais/teachers/progres/core/math/videos.aspx>) that showcase professionals (engineer, RCMP officer, nurse, baker, pipefitter) discussing how the attitudes, skills and knowledge acquired in mathematics are important in their careers. The videos also highlight how the high school math course sequences (-1, -2 and -3) support Alberta students in entering various careers.

For more information about the mathematics programs of study and resources, please contact Christine Henzel, director, Mathematics, Arts and Communication, at 780-415-8958, Christine.Henzel@gov.ab.ca; or Diane Stobbe, French team leader, Mathematics K-12, at 780-427-7489, Diane.Stobbe@gov.ab.ca.

Assessment

Diploma Programs

Jenny Kim is the new team lead for Mathematics 30-2. Jenny has been a mathematics teacher for 19 years, and she also has previous experience with Alberta Education as the examiner for Mathematics 30-1. Jenny is excited to be working with teachers across the province in her new capacity. Jenny can be contacted at 780-427-0010 or at jenny.kim@gov.ab.ca.

Following the March 2015 announcement regarding the change to diploma exam weighting, Alberta Education reviewed the related business rules in consultation with the Diploma Examination Advisory Committee. For students who have completed a diploma course prior to September 1, 2015, and write the diploma exam afterward, their marks will be weighted at 70/30, with the diploma exam weighted at 30 per cent. For students who have an official mark prior to September 1, 2015, then rewrite the exam or retake the course after September 1, 2015, the 70/30 weighting will be applied if the student achieves a higher mark on either the exam or the course. In all cases, the student's highest school-awarded mark, highest diploma exam mark and highest official mark will be reported on the

transcript. Further information on these updated business rules is available in the detailed FAQ posted online at <http://education.alberta.ca/admin/testing/diplomaexams>. It may also be helpful to refer to the appendix in the Marks, Results and Appeals section of the General Information Bulletin for examples of how these business rules are applied to calculate students' official marks.

For more information, please contact Deanna Shostak, director, Diploma Programs at Deanna.Shostak@gov.ab.ca or 780-422-5160 (dial 310-0000 first for toll-free access in Alberta).

MCATA Grants

MCATA grants are available to teachers and coordinators as part of professional development, for research into math education or for other math initiatives that promote and enhance mathematics education throughout the province. These grants help to fund projects developed by you while furthering the education of students and educators in the math field. Grants of up to \$500 are awarded twice each year and applications should contain the nature of the project and the audience participating and benefiting, and explain how it incorporated diversity in regional development opportunities for teachers. The grants are intended to be used to assist in covering the cost of facilitating professional development. For more information or an application, please visit www.mathteachers.ab.ca/mcata_grants.htm or contact Carmen Wasylynuik, director of awards and grants, at carmenbt@telus.net.

Apply for this grant to cover your transportation costs to and from the conference!

Request for Lesson Plans

Have you created one of those amazing cross-curricular lesson plans that works so well you wish you could share it with more teachers? Maybe you haven't but have always wanted the excuse to try. Well, now you have it.

For upcoming issues of *delta-K*, we are looking for cross-curricular lesson plans for kindergarten to Grade 12 that include a significant math component. Recognizing that a lot of work goes into creating such projects, we would like to share these ready-to-go resources so that we and students can benefit from the brainpower and effort of multiple teachers. Please contact Lorelei Boschman (*delta-K* editor) at lboschman@mhc.ab.ca.

MCATA Fall Symposium

Thursday, October 22, 2015

Fantasyland Hotel, Edmonton

Teaching STEM with Robotics

Guest Speakers: Krista Francis and Michael Poscente

Want to add some engaging hard fun in your classroom? Try some robotics. In this hands-on session, you will learn everything you need to teach STEM with robotics. First, we will build, design and program EV3 Lego Mindstorms™ robots. Then we will learn to program a robot to move forward and backward, turn, spin and trace the shape of a regular polygon with programming loops. Next, we will learn how to make the robot interact with its environment with sensors. We'll also share our classroom STEM research on spatial reasoning, discuss designing challenges for the classroom and make curriculum connections.

Please bring a laptop with the free EV3 software downloaded from www.lego.com/en-us/mindstorms/downloads/download-software.

Those of you who participated in the spring symposium with Krista Francis will have an opportunity to participate in an extension of the spring session. This will be facilitated in the same room.

Speaker Profiles

Krista Francis is an assistant professor and the Imperial Oil Science Technology Engineering and Mathematics (IOSTEM) director with the Werklund School of Education at the University of Calgary. Krista teaches and coordinates the STEM Education undergraduate course. Her research focus is about teachers' knowledge for STEM teaching, including engaging teachers and children in rich tasks.

Michael Poscente is a graduate student in biomedical electrical engineering. Michael has been participating in robotics design competitions since junior high. He competed throughout his undergrad, earning recognition in many competitions including second place in an international design competition. He now designs challenges for elementary and undergraduate robotics competitions.

Registration on site: 8:30 AM–9:30 AM

Time: 9:30 AM–3:00 PM

Cost: \$100

Coffee will be provided.

Lunch: 11:45 AM to 12:45 PM

Registration is limited. To register go to www.mathteachers.ab.ca.

Online registration deadline is Wednesday, October 21.

If capacity has not been reached by Thursday, October 22, registrations will be accepted on site at the registration desk. The on-site registration fee will be \$125 and payable by cheque, cash or money order. Unfortunately credit card payment cannot be processed.

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