Mathematics Council NEWSLETTER
The Alberta Teachers' Association

President's Message

As my first term as president of MCATA draws to a close, I can't help but reflect on the past year. I'm not sure I would have let my name stand for election if I had known then what I know now. On the other hand, I have learned so much that I am glad I did. The year has had its rewards and challenges, but the rewards have far surpassed the challenges.

I must thank my table officers and executive for all the help and support they have given me on this past year's journey. Their support and assistance moved us through the challenges and allowed us to reap many rewards for the benefit of teachers and students throughout the province. Please join me in applauding the folks who have helped to make this past year a memorable one.

I started my term at the conclusion of a very successful annual conference at the River Cree Resort, in Edmonton. We also hosted a round table discussion with Minister of Education David Hancock regarding his decision to withdraw the written response portion of the diploma exams in mathematics and science. This was followed with a spring symposium in Calgary on assessment in mathematics. Despite very poor weather conditions on the Thursday before the symposium, we had a great turnout of 100 participants. We also worked to develop a strategic plan for MCATA for the next three years.

The fall will bring us full circle, with the conference in Calgary on October 22–23, and the fall symposium, on Thursday, October 21, with Steven Leinwald as featured speaker. You can find information about both these events on the MCATA website, www.mathteachers.ab.ca.

I would also like to urge you to go the ATA website, www.teachers.ab.ca, and renew your math council membership as well as update your profile so we can continue to provide you with the benefits of Math Council membership. Remember— memberships, even complimentary ones, must be renewed every year.

I would like to conclude today's message with a quote from Albert Einstein that embodies my thoughts and passion about mathematics. "Pure mathematics is, in its way, the poetry of logical ideas." And remember, "Do math and you can do anything!" Thank you.

Marj Farris

From the Editor's Laptop

I would like to take this opportunity to welcome you back. I hope you all had a relaxing and rejuvenating summer break. At this point in a new school year, we look forward to all we can accomplish and set goals for ourselves. Along with setting goals come our professional development plans for the upcoming school year. I would like to encourage each of you to attend the MCATA 2010 conference, being held in Calgary at the Coast Plaza Hotel & Conference Centre, on October 22–23. If this is not a possibility for you, please seek out other PD opportunities offered through your regional consortia, school board or colleagues in your school. Until next time, happy learning!

Tancy Lazar

Please remember to renew your complimentary specialist council membership. To renew online, go to the ATA website, **www.teachers.ab.ca**, and click on For Members, Professional Development, Specialist Councils and Specialist Council Memberships.

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 that you develop while furthering the education of students and educators in the math field. Grants of up to $500 are awarded twice each year. Applications should specify the nature of the project and the audience participating and benefiting, and explain how the project incorporates diversity in regional development opportunities for teachers. The grants are intended to help cover the cost of facilitating professional development related to the project.

For more information or an application, please visit our webpage at www.mathteachers.ab.ca/mcata_grants.htm or contact the director of awards and grants, Carmen Wasylynuik, at 780-907-8990 or carmenbt@telus.net.

MCATA Executive May Meeting

This meeting followed the very successful symposium on Friday, April 30, 2010. Several items on the agenda focused on the upcoming symposium and conference in October in Calgary—be prepared to take part. At the MCATA table, there will be math watches, *pi* plates, mugs, short- and long-sleeved shirts, vests—bring a cheque or cash with you to the conference. Teachers who bring their MCATA conference bag to this fall's conference will receive a special gift instead of a new bag. There will be a change to the speaker's proposal form so that submissions can be made four times a year. The submissions will help MCATA, as we are asked on a regular basis for speakers for ATA conventions, PD days, consortia sessions and so forth. The 2011 conference will be held at the River Cree Resort, on the outskirts of west Edmonton, and the 2012 conference will be held at the Jasper Park Lodge. The ATA staff advisor for the MCATA executive has started the process of strategic planning, which will be an ongoing process in the years to come. Thank you to Elaine Simmt, faculty of education representative, from the University of Alberta, for being a member of the MCATA executive for six years and conference chair for two conferences. Dr Olive Chapman, from the University of Calgary, will be the faculty of education representative starting this fall.

TERM Meetings

Teachers of Mathematics in the Edmonton region will meet on October 4, December 6, March 7, 2011, and May 2, 2011 at Paul Kane High School, in St Albert, at 5 pm in Room 224 (on the north side of the building). For more information, please send a message to donnajc@telus.net.

Alberta Regional Consortia

There are seven local professional development consortia in the province. If you have not attended a session offered by your local consortium, you may try to get to one this year. There are sessions for mathematics from K–12. If you do not see a session that meets your needs, please contact your consortium. Quite often the director of the consortium wants to know what teachers would like to have for sessions. If you would like to be a presenter, please contact your consortium director. Contact information is available at www.arpdc.ab.ca.

Provincial Executive Council

We are now past the much-anticipated release of Alberta Education's report *Inspiring Education: A Dialogue with Albertans* and its follow up, *Inspiring Action on Education: A Discussion Paper*. The months ahead will provide us with the opportunity to ask some important questions about education in Alberta.

Alberta has an opportunity to become a global leader in learning. The conversations we need to have are about learning and leadership; some argue that the two are synonymous. Whatever one's view, there is little doubt that what is most fundamental of all is the answer to the question, What kind of society do we want to create in Alberta and what kind of teaching and learning will get us there?

Our association has been working hard over the last year in preparation for the policy changes required to transform education. Check out our new research update called *The Courage to Choose—Emerging Trends and Strategic Possibilities for Informed Transformation in Alberta Schools: 2010–2011*.

Carol Henderson

Senior High Mathematics Institutes

The Alberta Regional Professional Development Consortia (ARPDC) was responsible for organizing the semiannual institute for senior high mathematics teachers during the 2009/10 school year. The institutes were scheduled to take place on the day following the diploma examinations in January and June rather than during the summer. As well, in order to provide broad access to all teachers across Alberta, the institutes were hosted in Calgary, in January, and Edmonton, in June, and broadcast to other sites across the province using video conferencing and webcasting technology. It is anticipated that the location of the host site will move around the province for future institutes over the next two years and that the institutes will continue to be broadcast to satellite sites across Alberta.

The theme for the institutes this year was "Seeing the World Mathematically: Math for All Students." Dr Peter Liljedahl, of Simon Fraser University, presented in both January and June, and focused on developing a culture of thinking in the math classroom. Between 400 and 500 teachers attended these institutes across Alberta. Below are some comments from participants:

- For the first time ever being involved in this scale of VC presentation, it went very well! I was engaged, I learned something and I can take it back to the classroom.
- I love the new learning of "process is the content" and the straightforward approach. "This is the mandated curriculum"—it is our job to teach this curriculum.
- Wonderful presenter, please come back! I learned more strategies that won't shut down student thinking or allow them to "opt out" of thinking.

Both January and June presentations were recorded and will be archived for viewing by anyone who wishes to see them. In addition, Dr Liljedahl hosted two webinars. Contact your local consortium for information on how to access these archived webinars.

The tentative date for next year's January institute is January 26, with Lethbridge as the host site. Once again, teachers across the province will be able to access the institute via video conferencing or webcasting at sites in their own regions. Watch for information about the January institute in the fall of 2010 by checking the website of your local consortium. You can also check the ARPDC website at www.arpdc.ab.ca.

Math Symposium October 21, with Steven Leinwand

Small Adjustments with Big Results: Making Math More Accessible for Students

You don't need to completely change your teaching practice to raise your students' math achievement. Steven Leinwand, author of *Sensible Mathematics,* shows how small changes to the good teaching you already do can make a big difference in student learning.

Leinwand focuses on classroom instruction. He studies the research and visits highly effective classrooms for practical examples of small adjustments to your teaching that lead to deeper student learning in math. Some of his classroom-tested teaching shifts may surprise you and others will validate your thinking, but all of them will improve your students' performance.

Thoroughly practical and ever aware of the limits of teachers' time, Leinwand will give you common-sense ideas to use immediately. He will offer classroom examples from a variety of grade levels, and his planning advice will help you get more from everything you do. His suggestions for professional learning will help increase your effectiveness through the power of collaboration.

Steven Leinwand seeks to raise the mathematical understanding and achievement of all of your students. This session will help you discover how minor shifts in your teaching can put student learning into high gear.

Alberta High School Mathematics Competition Book

MCATA has supported the annual Alberta High School Mathematics Competition for years. Dr Andy Liu has compiled the math competitions from 1957 to 2006 into a hardcover book, *The Alberta High School Mathematics Competitions 1957–2006,* and donated a copy of the book to MCATA. In turn, we donated it to the ATA library so that all Alberta teachers will have access to it.

To access the ATA library, visit the ATA homepage (www.teachers.ab.ca) and click ATA Library under For Members/Programs and Services. From there, you can search the catalogue or click on Web Resources. You can also contact the library staff at library@ata .ab.ca. During the school year, the hours are Monday to Friday, 8 AM to 5 PM. Summer hours (July and August) are Monday to Friday 8 AM to 4:30 PM.

Alberta High School Mathematics Competition

The first part of the 54th Alberta High School Mathematics Competition was written on November 17, 2009, by 612 students representing 27 schools.

Major Individual Prizes

1st—*Soroosh Hemmati*, Western Canada High School, Calgary (Grade 12)

2nd—*Philip Ma*, Harry Ainlay High School, Edmonton (Grade 11)

3rd—*Hunter Spink*, Western Canada High School, Calgary (Grade 11)
Mariya Sardarli, Strathcona High School, Edmonton (Grade 10)

Grade 11 Prize: *Kaiven Zhou*, Strathcona High School, Edmonton

Grade 10 Prize: *Soha Hemmati*, Western Canada High School, Calgary

Robert Barrington-Leigh Prizes:
Desmond Sisson, Queen Elizabeth Junior/Senior High School, Calgary (Grade 8)
Weilian Chu, Grandview Heights Junior High School, Edmonton (Grade 9)

Major Team Prizes

1st—*Western Canada High School*, Calgary: Soroosh Hemmati, Hunter Spink and Jaclyn Chang, managed by Ms Renata Delisle

2nd—*Harry Ainlay High School*, Edmonton: Philip Ma, Weiye Ren and Nicholas Adamski, managed by Ms Meriel Hughes

3rd—*Sir Winston Churchill High School*, Calgary: Di Mo, Yaroslav Babich and Justine Zhang, managed by Mr Neil Hamel

The second part of the 54th Alberta High School Mathematics Competition was written on February 3, 2010, by 59 students representing 15 schools. Here is the list of fellowship winners and top performers.

ConocoPhillips Canada Fellow, 1st: *Mariya Sardarli*, Strathcona High School, Edmonton (Grade 10)

Peter H Denham Memorial Fellow, 2nd: *Hunter Spink*, Western Canada High School, Calgary, Grade 11

Canadian Mathematical Society Fellow, 3rd: *Soroosh Hemmati*, Western Canada High School, Calgary

Alberta Teachers' Association Grade 11 Fellow, 4th: *Kaiven Zhou*, Strathcona High School, Edmonton

Alberta Teachers' Association Grade 10 Fellow, 17th: *HanHyung Lee*, Old Scona Academic High School, Edmonton

Robert Barrington Leigh Memorial Fellow, 13th: *Weilian Chu*, Grandview Heights Junior High School, Edmonton (Grade 9)

Calgary and District 34th Junior High School Mathematics Contest—April 28, 2010

Individuals

1st—Alexander Rodrigues, John Ware Junior High School

2nd—Bing Zhao, Mount Royal Junior High School

3rd—Janet Leahy, Home School

Teams

1st—John Ware Junior High School: Alexander Rodrigues, Henry Su, Granth Liu, Ryan Zhu

2nd—Queen Elizabeth Junior/Senior High School: Hee-Joo Nam, Michael Deng, Jason Cheng

3rd—Mount Royal Junior High School: Bing Zhao, Logan Ruan, Ashley Zhang

Honourable Mention—Simon Fraser Junior High School: Jacqueline Williams, Haoran Tian, Mark Wan

---

Edmonton Junior High Math Contest

More than 800 junior high students wrote the contest on May 5, 2010. Following are the results:

1. 48 students will receive medals for the highest scores.
2. The first-place team is Vernon Barford School.
3. The first-place winner is Weilian Chu, from Grandview Heights School.

Alberta Education

Authorized Resources—Making a Difference in the Classroom

I often get asked about what authorized resources are and why they should be used in classrooms. Authorized student and teacher resources for the revised K–12 programs of study are seen as a package that matches both the philosophy and the outcomes of the programs. The philosophy is set out in the front matter (pages 1–17 of the programs of study) and it is imperative that the philosophy infuse all aspects of the resource. Here are a few elements that resources need to include in order to address the philosophy:

- Focus on developing conceptual understanding through a variety of learning activities
- Include multiple representations (concrete, pictorial and symbolic)
- Include problems that have multiple solutions and opportunities for students to learn and use multiple solution methods
- Embed the seven mathematical processes throughout the resource
- Demonstrate that problem solving is central to the teaching and learning of mathematics
- Support diverse learning styles
- Ensure terminology and notation match the program of studies
- Use a balanced approach to assessment

To properly address the outcomes of a course, a resource must keep to the scope and depth as outlined by achievement indicators. As well, the mathematical processes that are specifically included in the outcome must be addressed. Authorized resources also need to include western and northern Canadian contexts and perspectives and reflect the diversity in our society in a respectful manner.

In the case of the new high school resources, Alberta Education has worked very closely with the publishers throughout the development of the resources to ensure fidelity to the philosophy and outcomes of the revised program. As part of this process, the resources are reviewed by teachers from across Alberta, including teachers with FNMI and francophone perspectives.

In summary, using the authorized resources helps you to know that the content, activities, instructional design, and assessment do indeed support both the philosophy and outcomes of the revised program.

Kindergarten to Grade 9 Implementation

Implementation of the revised K–9 mathematics program of studies is now complete. As of September 2010, the revised program is being taught in Grades 3, 6 and 9, in both English and French.

High School Implementation Has Begun

Provincial implementation of the new Grade 10 courses (English and French) began this fall. Students enrolled in a Grade 10 mathematics course will be taking either Mathematics 10C, Mathematics 10-3 or Mathematics 10-4. Pure Mathematics 10, Applied Mathematics 10, Mathematics 14 and Mathematics Preparation 10 have been withdrawn and can no longer be offered in schools.

New and Improved Mathematics Webpage

Want the latest information about the revised mathematics programs of study? Visit our new and improved webpage at http://education.alberta.ca/math. Here you can access the programs of study, assessment standards, an easy-to-use authorized resource list, information fact sheets and other materials, including a link about postsecondary acceptance.

Postsecondary Acceptance

Postsecondary representatives have been involved in the revisions to the mathematics program from the beginning. Below is a link to the most recent information regarding mathematics requirements at postsecondary institutions in Alberta. At present, not all programs and/or institutions have yet identified these requirements; however, the site will be updated on a regular basis as new information is made available. It is always recommended that entrance requirements be checked directly with the postsecondary institutions to ensure accuracy and completeness of information. http://alis.alberta.ca/ec/ep/aas/ta/mathreq.html

Save the Date

What a great start to implementation—with the success of the first two high school mathematics institutes. Approximately 1,000 teachers from across the province attended "Seeing the World Mathematically! Math for All Students" (in both English and French), in January and June 2010. The next two institutes are tentatively scheduled for January 26, 2011, and June 24, 2011—put these dates in your calendar now! High school mathematics teachers are strongly encouraged to attend all the institutes. This opportunity is sponsored by the Alberta Regional Professional Development Consortia and is at no cost to participants. Watch for more information this fall through your local consortium.

For French Immersion and Francophone Elementary Teachers

Kindergarten to Grade 6 teachers can access an online tool in French called « EMA : Enseigner les mathématiques en Alberta » . EMA presents strategies, models, audio excerpts and sample lessons filmed in classrooms for the "Number, Shape and Space" and "Patterns and Relations" strands. EMA can be found at www.LearnAlberta.ca by searching for the keyword *EMA*.

Clearing Graphing Calculators for Diploma Examinations

Teachers and administrators are strongly encouraged to use TestGuard 2.0 when clearing Texas Instruments graphing calculators. This program effectively overrides shells or emulators that students might have installed on these calculators. For further information on how to properly clear approved graphing calculators before and after all mathematics and science diploma examinations, please refer to the "Using Calculators and Computers" section of the General Information Bulletin found at http://education.alberta.ca/admin/testing/diplomaexams/diplomabulletin.aspx. For more information and to get TestGuard 2.0, contact the Texas Instrument representative in your area.

Calculator Policy for 2012/13 Diploma Examinations

Teachers may want to advise students taking Mathematics 10C of the approved list of graphing calculators, especially if students plan to write a Mathematics 30-1 or Mathematics 30-2 diploma examination in the future. This list, which is different from the approved graphing calculator list for 2010/11, is posted on Alberta Education's website. Go to http://education.alberta.ca/math, select Educators, then Support Materials, and scroll down to "Approved Calculators for Mathematics 30-1 and 30-2 Diploma Examinations." Alternatively, go to http://education.alberta.ca and follow the pathway Teachers > (Additional Programs and Services) Diploma Exams > Information Bulletins > Approved Graphing Calculators for Mathematics 30-1, Mathematics 30-2 and Science Diploma Examinations in 2012–2013.

Digital Field Tests for Diploma Examinations

Digital field tests for both Applied Mathematics 30 and Pure Mathematics 30 will be offered during the 2010/11 school year. To access these field tests along with practice tests for these courses, as well as many others in Grades 3, 6, 9 and 12, go to https://questaplus.alberta.ca.

Christine Henzel

The Joy is in the Journey

ANNUAL CONFERENCE OCTOBER 22-23, 2010
Registration Begins Thursday Evening October 21, 2010
The Coast Plaza Hotel & Conference Centre
1316-33 Street NE
CALGARY, ALBERTA
For further information and ongoing updates, visit www.mathteachers.ab.ca

MCATA *is the Mathematics Council of the Alberta Teachers' Association and its mission is to provide leadership to encourage the continuing enhancement of teaching, learning and understanding.*

CONFERENCE REGISTRATION FORM

Name: (last) _____ (first) _____

Address: _____

City: _____ Province: _____ Postal **Code:** _____

Phone: (home) _____ (school) _____ (fax) _____

School Name: _____ **Teaching Certificate #:** _____

Email: _____

Grades Taught: ___ K-3 Div I, ___ 4-6 Div II, ___ 7-9 Div III, ___ 10-12 Div IV, ___ Post Secondary

> In registering for this specialist council conference, you are voluntarily providing your personal information and consenting to its collection, use and disclosure for all purposes connected with your attendance at this conference.

Conference Fees:

You are entered in the Early Early Bird Draw if your registration is postmarked by **June 30, 2010** and the Early Bird Draw if your registration is postmarked by **September 16, 2010**. Draws are for one night's accommodation at The Coast Plaza Hotel & Conference Centre, Calgary.

Register early to avoid disappointment. Space is limited for this conference. Make sure you register early.

Early Registration (Postmarked by October 1st, 2010)
Non MCATA Member (includes a MCATA membership) $380 _____
Current MCATA Member (must be a member at the time of registration) $350 _____
Student (Undergraduate-provide copy of student ID) $100 _____
Retired MCATA Member $350 _____

Late Registration (Postmarked after October 1st, 2010)
Non MCATA Member (includes MCATA membership) $405 _____
Current MCATA Member $375 _____
Student Member (Undergraduate) $125 _____
Retired MCATA Member $375 _____

Persons not eligible for specialist council membership $760 _____
Central Office staff who did not elect active ATA membership cannot be members of specialist councils. The superintendent and deputy superintendent of school jurisdictions and teachers in direct charter, federal or private schools must be ATA associate members in order to qualify for specialist council membership. Questions? Call ATA at 780-447-9400 or 800-232-7208.

A conference fee includes Friday breakfast, lunch, Friday Night Social and Saturday breakfast.

Extra meal tickets:
Friday Breakfast $22 _____
Friday Lunch $30 _____
Saturday Breakfast $22 _____

     Total Fees $_____

> In making application for membership to MCATA, you are voluntarily providing your personal information and consenting to its collection, use and disclosure for all purposes connected with your participation as a member of the Mathematics council.

Bring your MCATA bag from last year to receive a bonus gift.

Method of Payment:
MCATA does not accept credit cards, School PO's or Board P.O's. Payment must be made by money order or cheque. No post dated cheques will be accepted. Registration must be accompanied by full payment. Please MAKE CHEQUES PAYABLE to: **Math Council ATA.**

Conference Cancellation Policy
If it becomes necessary for you to cancel your registration, please cancel in writing by fax (780)469-0414 or mail (1826-51 Street, Edmonton, AB T6L 1K1) to the MCATA Conference Registrar prior to **October 1st, 2010.** A $40 administration fee will be levied on refunds issued prior to this date. No refunds will be issued after this date. NSF cheque fee: $20.00

Mail Registrations to:
MCATA Conference 1826-51 Street, Edmonton, AB T6L 1K1.

Registration confirmation letters will be faxed to each participant. It is pertinent that you **include the correct fax number on your registration form**. It is also important that you indicate the grade/division you teach.

Full program and speaker schedule will be supplied upon check in at the conference. A sample of the speaker list and session descriptions will be available on line www.mathteachers.ab.ca in September.

For further registration information, contact Patricia at (780)450-1813 or mathematicsconference@shaw.ca . More registration forms can be downloaded from the MCATA website www.mathteachers.ab.ca

Accommodation:

The Coast Plaza Hotel & Conference Centre is holding a block of guestrooms at a special rate of $154.00 per night. This special rate does not include the applicable taxes. Book your reservation by calling 1-403-248-8888. Let them know that you are attending **the ATA Math Conference**. The block will be held until **September 21, 2010.** Ensure you have made your own hotel reservations prior to this date.

Keynote Speakers:

For biographical information on our Friday and Saturday keynote speakers, please visit the MCATA website at www.mathteachers.ab.ca. Sessions will be given on interactive whiteboards.