



# Mathematics Council NEWSLETTER

The Alberta Teachers' Association

*Providing leadership to encourage the continuing enhancement of teaching, learning and understanding mathematics.*

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## From the Editor's Pencil

**F**or the past couple of years, MCATA has been making a concerted effort to improve mathematical literacy in the classrooms of the province. The belief is that mathematics is more than a 45-minute class, more than the arithmetic we learned in early elementary school and more than the numerals and symbols on the pages of textbooks. Mathematics is a way of seeing and describing the world, and the arithmetic and symbols are only the grammar and spelling that allow us to communicate our understanding.

In these days of funding shortages and declining numbers of qualified math teachers, it becomes more and more incumbent upon us to encourage and support those for whom math is not a passion. In talking with colleagues, we often find that we are

preaching to the converted regarding math literacy. The people we really need to reach are the others who are afraid of math.

Having not found my love for math until my 30s, I now find myself a bit of a zealot in promoting its wonders and beauty. It's rather like the reformed smoker who is even more intransigent in dealing with smokers than someone who has never smoked. We must understand that for some of us math is scary, but the joy that comes with understanding is worth the risk of trying something different. Encourage those people to join MCATA, to network with other math teachers, to read *delta-K* and to experiment with problems that arise in the world. Make math meaningful, give teachers and students a practical reason to learn. Get energized. It truly is a wonderful and exciting way of thinking.

—Anne MacQuarrie

## President's Message

**A**s the new school year begins and we all get into the swing of things, try to avoid stress—mathematical or otherwise. Here is a word game that might help you to do that:

**Name it:** What am I feeling right now?

**Claim it:** I am hurt. I am angry. I am furious.

**Tame it:** Breathe, mediate, exercise, listen to music, pray, take a walk, pet your dog.

**Reframe it:** Is my feeling appropriate for this situation? Have worse things happened to me? Is my feeling really about this situation or about something else? Who can I talk to about what is happening?

**Focus it:** Focus on a long-term goal. Attend the NCTM/MCATA Regional Conference this November in Edmonton. Be inspired. Talk with colleagues. Meet new mathematical friends. Have fun. See you there.

—Cynthia Ballheim

## NCTM/MCATA Regional Conference

“Taking Mathematics to  
the Nth Degree”

Edmonton, Alberta  
November 20–22, 2003

**D**on't forget to register for this exciting NCTM/MCATA conference. This is a great opportunity to hear wonderful speakers, meet other educators, compare notes and perhaps stir your imagination about what is possible for students today. With the wonderful program that has been lined up, you are sure to find something to inspire you. Online preview booklet and registration are available at [www.nctm.org/meetings/edmonton/](http://www.nctm.org/meetings/edmonton/).



# Alberta Learning Update

## Curriculum

- Alberta Learning, along with regional consortia, are hosting provincewide sessions to review the existing Junior High Mathematics Programs of Study. The results and recommended changes will be communicated to school authorities in June 2004, and optional implementation will occur in September 2004. To attend these sessions, register with your regional consortium.

## Learning Technologies Branch

- An A-pack of modules 1–2 for the new Mathematics 14 course is now available. Modules 3–5 will follow.

## Learner Assessment Branch

- Rob Shaughnessy joined the Applied and Pure Mathematics 30 diploma exam team in September 2003. Rob is a secondee from Battle River Regional Division No. 31 and will be an examiner for both Pure and Applied Math 30. Welcome, Rob!
- The Exam Manager's Report, along with a representative sample of released diploma exam questions, was posted on Alberta Learning's website ([www.learning.gov.ab.ca/k\\_12/testing/diploma/emr/default.asp](http://www.learning.gov.ab.ca/k_12/testing/diploma/emr/default.asp)) in early October. Current plans are to consolidate the Exam Manager's Report for January and June 2004 into one report, which will be released in September 2005.
- All diploma exams are now separated into Part A (written response) and Part B (machine scored). Part A of the diploma examinations will be released. Part B examinations will still be secure, but a teacher-perusal copy will be sent for review purposes. All copies of the diploma exam, including the teacher-perusal copy, must be returned to Alberta Learning. A representative sample of diploma exam questions will be released in September 2005 along with the Exam Manager's Report.
- Copies of the bulletins and the projects for both Pure Mathematics 30 and Applied Mathematics 30 were sent to schools in late August. The bulletins, student projects and teachers' notes can also be downloaded from [www.learning.gov.ab.ca/k\\_12/testing/](http://www.learning.gov.ab.ca/k_12/testing/); the sample solutions can be downloaded from the extranet. (Adobe Acrobat 5.0 is required to download these files.)
- Check out the newly updated [www.learnalberta.ca/](http://www.learnalberta.ca/) portal to digital learning resources that support lifelong learning opportunities for Albertans. It was designed to be used by students, parents and teachers. In the area of mathematics, check out the applets, videos and lessons for Math 6 and Applied Mathematics. LearnAlberta also contains an online reference centre, a National Geographic Science Centre and various other digital learning resources.

# NCTM Affiliate News

## Affiliate Leaders' Conferences

Four Affiliate Leaders' Conferences were held in 2003 from May 30 to August 2, and plans are under way for the 2004 conferences. The Affiliate Services Committees selected the theme of "Communication" for 2004. Dates and locations will be announced as soon as they are finalized.

## NCTM Website

Check out the changes to the NCTM website, in particular the enhancements to the Members Only section.

## Coming Soon to NCTM Members

The NCTM 2003/04 catalogue, *Resources for the Mathematics Educator*, will feature 16 new titles, including the addition of five new Navigations series books (with CD-ROMs).

## Conferences

Affiliate conference dates (that is, dates that have been submitted to Affiliate Services) and NCTM conference dates can be accessed at [nctm.org/meetings/index.htm](http://nctm.org/meetings/index.htm).

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# Executive Meeting Summary

May 23–24, 2003

The agenda dealt with items that allowed the executive to reflect on the events of the past year and to plan for the upcoming year. More details for the November 2003 NCTM/MCATA Conference were confirmed as well as the locations for the next three conferences: 2004, the Westin, Calgary; 2005, Fantasyland Hotel, Edmonton; and 2006, Jasper Park Lodge, Jasper. Items under consideration for next year are MCATA awards, contact with postsecondary institutions, conference planning and other professional development opportunities for the membership.

Upcoming executive meeting dates are November 21, 2003; January 16–17, 2004; March 12–13, 2004; and May 14–15, 2004. If you have any concerns, issues, suggestions or comments, please contact an executive member so that the item can be included on the agenda. Go to [www.mathteachers.ab.ca](http://www.mathteachers.ab.ca) for contact information.



## Delightful Reads

- *Euclid's Window*, by Leonard Mlodinow  
New York: Simon and Schuster, 2001  
Subtitle: *The Story of Geometry from Parallel Lines to Hyperspace*

I read *Euclid's Window* in a campground near Nordegg this summer. A great way to spend some quiet time early in the morning. Essentially a collection of five biographies, beginning with Euclid and ending with Witten, it was a great way to spend some quiet time in the morning. Also it was a delight to see some material about a living mathematician.

- *Feynman's Rainbow* by Leonard Mlodinow  
New York: Warner Books, 2003  
Subtitle: *A Search for Beauty in Physics and in Life*

Yes, this is the same author. I read this while attending an MCATA executive meeting (no—not during the meeting). Although ostensibly about science, it generalizes nicely to all branches of human endeavour. Here is a brief quote from page 155:

“Go look at an electron microscope photograph of an atom, okay? Don't just glance at it. It is very important that you examine it very closely. Think about what it means.”

“Okay.”

“And then answer this question. Does it make your heart flutter?”

- *Sacred Geometry* by Miranda Lundy  
New York: Walker and Company, 2001  
A very small book with some very beautiful curves. Must be seen.
- *Wonders of Numbers* by Clifford A. Pickover  
New York: Oxford University Press, 2000  
Subtitle: *Adventures in Mathematics Mind, and Meaning*  
Full of puzzles and facts, dedicated to the Apocalyptic Magic Square. Highly recommended if you have pencil and paper.
- *Dissections: Plane and Fancy*  
by Greg N. Frederickson  
New York: Cambridge University Press, 1997  
Highly recommended if you have scissors.
- *What the Numbers Say* by Derrick Niederman and David Boyum  
New York: Broadway Books, 2003  
Subtitle: *A Field Guide to Mastering Our Numerical World*.

How to interpret numbers in a rapidly expanding universe. A critical life skill.

You may find more information on these books on the Web or at your nearest bookstore.

## TERM Meetings

Meeting dates for the Teachers of Mathematics in the Edmonton Region (TERM) are December 1, February 23 and May 3. All meetings are held at 5 p.m. in Room 177 at Paul Kane High School in St. Albert. If you would like to attend and need more information, contact Donna Chanasyk at donnajc@telus.net or (780) 459-4405.

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## Canadian School Mathematics Fora

I attended the Canadian Mathematical Society's second National Educational Forum in Montreal on May 16–18 as the MCATA representative. This forum was a continuation of the first national forum held in May 1995; the next one is planned for 2005 in Ontario. There was English/French translation for most of the activities—panels, plenary lectures and lectures. Each of the 16 working groups met three times during the forum. My group was entitled “Rethinking Math Thinking in Secondary Math Classes” and was chaired by Edward Barbeau, University of Toronto; Denis Tanguay, Université du Québec à Montréal; and Peter Taylor, Queen's University. Edward agreed to be our group's communicator as we are expected to submit a report for the conference proceedings. As well, we are to continue to work as a group for the next two years and to submit some solid work at the forum in 2005. We shared the status of high school mathematics in the provinces that were represented and decided that we would try to invent problems to fit with the provincial curriculum that have some authenticity, challenge and depth.

After talking with colleagues and the MCATA executive, I will establish a meeting time at the next forum for all the provincial teacher representatives to share the happenings in their provinces. Previously, this opportunity was available at the NCTM Leadership Conference at a summer meeting in Canada. However, meagre attendance has threatened cancellation of conferences in the past and did cancel the conference this year.

One reason cited for poor turnout at conferences is lack of financial resources. Having a provincial meeting of the teacher associations in conjunction with the CMS Educational Forum might help the provincial associations to budget their resources more effectively.

—Donna Chanasyk



## MCATA Grants

Grants worth \$500 each are available for mathematics education initiatives that support current learning and teaching practices and/or current priorities as outlined by or through Alberta Learning, school districts, MCATA, NCTM, ATA or other reputable educational associations. Deadlines are May 1 and December 1 annually. For full details as well as the application form, see our website at [www.mathteachers.ab.ca](http://www.mathteachers.ab.ca). Grant applications can be sent to [glorway@telusplanet.net](mailto:glorway@telusplanet.net).

## Dr. Art Jorgensen Chair Award

This award is presented by MCATA to encourage students enrolled in education programs in Alberta postsecondary institutions to pursue and commit to mathematics education. The award consists of a one-year term on the MCATA executive, with all expenses paid to attend executive meetings (meals, travel and accommodation when necessary). It also includes a three-year MCATA membership and a one-year NCTM (National Council of Teachers of Mathematics) membership. Also included is an invitation to attend two MCATA conferences with all expenses paid. This will include a teacher substitute, hotel accommodation and travel. For further details as well as an application form, see our website: [www.mathteachers.ab.ca](http://www.mathteachers.ab.ca).

## Student Projects

MCATA invites teachers of Pure Mathematics 30 and Applied Mathematics 30 to submit their best student projects. The best student project from each course will be awarded \$50 and his or her work will be published in *delta-K*.

### Rules

- You may submit an electronic copy, but it must be accompanied by a hard copy.
- Your submission must contain the project questions and answers.
- You must include an entry/release form (available at [www.mathteachers.ab.ca/m30app02.htm](http://www.mathteachers.ab.ca/m30app02.htm)) that includes the student's name, home address and

phone number; the teacher's name; and the school's name and address.

- The student must sign the release, making the project the property of MCATA and allowing it to be published in *delta-K*. If the student is under 18 years of age, the parents must sign the release.

Submission deadline: February 15, 2004.

—Geri Lorway

## Mentoring Experiment

MCATA secretary Donna Chanasyk organized a mentoring program last year for Applied Mathematics 30. Five groups of two or three mentorees and one to two mentors were established. When asked how each member wanted to function, it was decided that each group would work by itself and that Donna would be contacted if something needed to be shared with all members.

The project ran smoothly throughout the year, and in June Donna solicited feedback on the effectiveness of the process. Here are some excerpts from the responses she received:

(From mentors)

The mentoring went really well on this end. In the future, I would be happy to mentor someone else if the need arises.

From my end of things I don't feel that I was helpful, or that I was helped in return. I think something like this has great potential, though.

I've only received a reply from another mentor in my group as opposed to a mentoree. We still had some good e-conversations and shared some good resources, but not as much as I expected.

(From mentorees)

I have thoroughly enjoyed the mentoring group. Yes, this is a worthwhile endeavour and should be continued.

I only communicated with my mentor and other mentorees a couple of times at the start of the year. I think mentoring is a great idea, but for me, it was just a really busy semester.

From the responses, with a little tweaking, mentoring could definitely be an asset to teachers new to a subject.

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