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NEWSLETTER / BULLETIN

APRIL 1999 15	(2) AVRIL 1999
The NEWSLETTER is a publication of the Canadian Mathematics Education Study Group	Ce BULLETIN est une publication du Groupe canadien d'étude en didactique des mathématiques
CMESG is a group of mathematicians and mathematics educators who meet annually to discuss mathematics education issues at all levels of learning. The aims of the Study Group are:	Le GCEDM est composé de personnes oeuvrant en mathématiques et en didactique des mathématiques et qui se réunissent une fois par année pour étudier diverses questions relatives à l'enseignement des
1) to study the theories and practices of the teaching of mathematics	mathématiques à tous les niveaux. Les buts du Groupe sont les suivants:
2) to promote research in mathematics education	1) maritan una réflavian aritima ann la théoria at la
aspects of mathematics education in Canada	<i>pratique de l'enseignement des mathématiques</i>
4) to disseminate the results of its work.	 encourager la recherche en didactique des mathématiques
	 faciliter l'échange d'idées et d'information sur tous les aspects de l'éducation mathématique au Canada
	 faire connaître les résultats de ses travaux.

PRESIDENT'S MESSAGE DE LA PRÉSIDENTE

Malgorzata Dubiel Simon Fraser University

When writing this, I went back to my message in last Fall's CMESG/GCEDM newsletter, where I invited you to reflect on the approaching 25th anniversary of the Group - to think about who we are, and where we want to go? What makes CMESG special to you? How do you see its future? Do we want to try to be somewhat more active?

I have not received much of a feedback, which probably means that people are either too busy or they are just happy with the way we are. And so, I decided to answer some of these questions myself.

What makes CMESG special to me?

Every meeting of the group I attended gave me a memorable few days during which I felt a part of a group of people creating something wonderful together, sharing freely their knowledge and insight. Every year I felt recharged, leaving with new plans and ideas, ready to conquer and change the world. But, inevitably, the realities of daily work took over and not much time and energy was left for changing the world. So, what was left from all these meetings?

I started to think about this again after receiving an envelope with registration papers for the upcoming meeting at Brock. I began to remember the friendships which started at these meetings and the things I learned, from Elaine Simmt and Brent Davis' pop-up fractals, Bill Higginson's origami box, puzzles from

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Ed Barbeau, to calculus resources and ideas about mathematics and poetry from Peter Taylor -- and so many others that I could fill this whole newsletter with listing them.

Sharing these riches is part of CMESG spirit for me. So, maybe I will not change the world before our next meeting. But CMESG did change me over the years: it taught me to reflect and constantly review the way I teach and to try to make my classes more exciting. It made me look differently at my students and their needs. It opened for me resources which I, with my mathematical rather than educational training, was not even aware of.

Of course, I am still waiting for your reflections and suggestions on the future of CMESG if not before, then during our next meeting. So, I am looking forward to the fast approaching meeting at Brock and the great program prepared by Eric. I hope to see you all there!

I am happy to announce that John Grant McLoughlin agreed to be the new editor of the CMESG/GCEDM proceedings, and the Brock meeting will be his first assignment. He will take over from Yvonne Pothier, who is concluding her four years as the CMESG/GCEDM proceedings editor. Yvonne's last Proceedings, from the 1998 meeting at UBC, will be distributed at Brock.

Alors que je préparais ce message, j'ai relu ce que j'avais écrit dans le bulletin de l'automne dernier alors que je vous invitais à réfléchir en vue de notre 25^e anniversaire: qui sommes-nous (comme groupe) et où voulons-nous aller? Qu'est-ce qui rend le GCEDM/CMESG spécial pour vous? Comment voyons-nous son avenir? Voudrait-on être plus actif entre les rencontres annuelles?

Je n'ai pas reçu beaucoup de réponses, ce qui signifie sans doute que vous êtes trop occupés ou encore que vous êtes satisfaits de notre groupe tel qu'il est. Alors j'ai décidé de répondre moi-même à quelques-unes de ces questions.

Qu'est-ce qui rend le GCEDM spécial pour moi?

Chacune des rencontres auxquelles j'ai participé m'a permis de passer quelques journées inoubliables pendant lesquelles je me sentais membre d'un groupe qui créait quelque chose de merveilleux, chacun partageant ouvertement ses connaissances et sa compréhension des choses. Chaque fois, je me sentais revitalisée et je quittais avec des idées, des plans, prête à conquérir et à changer le monde. Mais, inévitablement, le travail et les engagements habituels ne me laissaient que peu de temps et d'énergie pour changer le monde.

Je me suis remise à penser à tout cela en recevant les documents pour la rencontre de Brock. Je me suis alors rappelé les amitiés qui ont commencé aux rencontres du groupe, et les multiples choses que j'y avais découvertes comme les fractals instantanés d'Elaine Simmt et Brent Davis, le livre d'origami de Bill Higginson, les casse-tête d'Ed Barbeau, les idées et documents sur le calcul et la poésie de Peter Taylor... et tant d'autres que je pourrais remplir plusieurs pages!

Pour moi, partager ces richesses fait partie de l'esprit du GCEDM. Bien que cela ne changera pas le monde avant notre prochaine rencontre, c'est néanmoins cela qui m'a changée au fil des ans. J'ai appris à constamment remettre en question mon enseignement, à y réfléchir et à essayer de rendre mes cours plus

excitants. Cela m'a amenée à considérer différemment mes étudiants et leurs besoins. Cela m'a permis de découvrir des ressources dont je ne soupçonnais pas l'existence, étant par formation une mathématicienne et n'ayant pas de formation en enseignement des mathématiques.

J'attends toujours vos idées et vos suggestions pour l'avenir du groupe lors de la rencontre, si vous ne pouvez le faire avant. J'ai bien hâte de vous rencontrer à Brock, de participer au programme d'activités préparé par Eric, et j'espère vous y rencontrer tous.

En terminant, il me fait grand plaisir d'annoncer que John Grant McLoughlin a accepté d'être le prochain éditeur des Actes du GCEDM/CMESG, et il débutera son travail avec la rencontre de Brock. Il prend la relève d'Yvonne Pothier, qui termine cette année sa quatrième année comme éditrice des Actes avec la remise, lors de la rencontre à venir, des Actes de la rencontre de 1998 tenue à UBC.

OTHER CMESG NEWS An Imminent Election

Dear Colleagues,

You have received a ballot for the 1999 CMESG/GCEDM elections. We must elect a member and a treasurer. If you reply by email to the email ballot, please address that email ONLY to me: tom.kieren@ualberta.ca. If you mail back a mail ballot, please put your name on the outside of the envelope. Do not vote using both return processes. Thanks. Tom Kieren.

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AUTRES NOUVELLES DU GROUPE

Élections

Chères collègues, chers collègues,

Vous devriez avoir reçu un bulletin de vote pour l'élection à l'exécutif du GCEDM/CMESG pour 1999. Nous devons élire un membre de l'exécutif et une trésorière (ou un trésorier). Vous pouvez voter par courriel en adressant votre vote UNIQUEMENT à mon attention. Si vous votez par la poste, veuillez inscrire votre nom à l'extérieur de l'enveloppe. Et s.v.p. ne votez pas en utilisant les deux manières de voter! Merci. Tom Kieren.

WHAT'S HAPPENING IN MATH EDUCATION

Senior Years Math in Manitoba : Programs and Assessment

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Manitoba has been part of the Western Consortium on School Mathematics from its beginnings in 1993. The provincial implementation resulting from this commitment consists of a common grade 9 course for all students and two programs, Applied Mathematics and Pre-Calculus Mathematics, at grades 10, 11, and 12 (or Senior 2, 3, and 4 in Manitoba parlance). In addition, Manitoba has developed a Consumer Mathematics course at each level for those students whose interests and abilities are not appropriate to the other two courses. This course is **not** bound by the outcomes specified in the Western Protocol. Mathematics credit at each high school level is a graduation requirement in Manitoba. A provincial assessment at the end of Senior 4 contributes 30% of a student's mark for the course.

It is the intent of this short article to describe the Consumer Mathematics program and its assessment while putting it in the overall context of the Manitoba high school mathematics program. It should be noted at the outset that the three programs are sufficiently distinct that a student may hold credit for more than one course in each year.

The Applied Mathematics program, as its name indicates, is application oriented with a heavy emphasis on the use of technology. The Senior 4 course in this program is recognized by a large number of postsecondary programs at the provincial universities and community colleges as meeting their admission requirements. For some such programs both Pre-Calculus and Applied Mathematics are recommended.

The Pre-Calculus program most closely approximates the traditional university entrance mathematics program and conforms to the Western Protocol. It is the first choice of those going on in university mathematics.

The Consumer Mathematics program is divided into two half-courses at each level in order to provide flexibility for students who are only interested in particular topics or whose attendance at school may be seasonal. The overall intent of the program is to provide mathematical experiences which will be enjoyable to students and which may provide them with appropriate consumer mathematics skills, from personal banking to building a fence. Furthermore, it now appears that we have been successful in designing a program which is acceptable for admission to postsecondary institutions in programs not requiring academic mathematics. The charts below give the general structure of the courses.

Note that in each course there are units labelled "Problems Analysis" and "Analysis of Games and Numbers." It is the developers' intent that material from these units be embedded throughout the course rather than be done in one or two week block. Problem Analysis activities consist of problems and situations to be dealt with which require only minimal skills in formal algebra, especially at the earlier grade levels. They range from problems which may be solved in 10-30 minutes to activities which may take several class periods or even a few hours at home. Many relate to situations in the "real world," and group work is appropriate to most of them. As curriculum developers we have provided 10-20 such problems/activities in each half course as illustrative (but not exhaustive) of what kinds of things are appropriate. It is stated clearly that not all students would be expected to complete all activities, and that not all students in a given class will necessarily do the same activities. Activities of the sort found in these units are generally not grade-level specific, thus many could be used at any of the grade levels.

Senior 2 Consumer Mathematics

	Half Course I		Half Course II	
UNIT		UNIT		
А. В.	Problem Analysis Analysis of Games and Numbers	А. В.	Problem Analysis Analysis of Games and Numbers	
C.	Wages and Salaries	C.	Consumer Decisions	
D.	Spreadsheets	D.	Geometry Project	
E.	Trigonometry	E.	Personal Banking	
F.	Spatial Geometry	F.	Probability and Sampling	

Senior 3 Consumer Mathematics

Half Course III UNIT		Half Course IV	
		UNIT	
Α.	Problem Analysis	Α.	Problem Analysis
B.	Analysis of Games and	В.	Analysis of Games and
	Numbers		Numbers
C.	Tesselations and	C.	Measurement Technology
	Polyhedra	D.	Operating a Vehicle
D.	Income and Debt	E.	Personal Income Tax
E.	Data Analysis and	F.	Applications of
	Interpretation		Probability

Senior 4 Consumer Mathematics

	Half Course V		Half Course VI
	UNIT		UNIT
A. B.	Problem Analysis Analysis of Games and Numbers	A. B.	Problem Analysis Analysis of Games and Numbers
C.	Personal Finance	C.	Investments
D.	Government Finances	D.	Taxation
E.	Relations and Formulas	E.	Geometry and
F.	Statistics		Measurement
		F.	Life/Career Project

Analysis of Games and Numbers began as a unit called "Recreational Mathematics." The aim was to include games and other mathematical activities involving patterns and strategies which would be fun, but also involve the analysis of logic and structure. This aspect has been retained. What has been added under the new title is a look at the way numbers are used everyday in society. Examples include: tire size designations, dimensional lumber, eye chart (20/20 vision), numbers used in weather reports, and motor oil viscosity. Again, the material provided to teachers is illustrative rather than exhaustive. Resources (e.g., Blocksma, Sutcliffe) are listed where teachers can find more information (these include books, journals, and web sites). Note that we have included both SI Metric and Imperial Units where we feel it is

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appropriate. The Community Colleges, in particular, have recommended this for their students in practical programs.

Other units which deserve special mention include Spatial Geometry and the Geometry Project. The first deals with spatial visualization and views of 2-D and 3-D objects and their transformations. Top, side, and front views are considered using hands-on approaches with blocks. The Geometry Project uses scale modelling: students actually construct a scale model of a building that their group selects - it may be something famous, e.g., the Taj Mahal, or a building in their own community.

The units on Statistics build on basic notions of empirical and theoretical probability to develop skills in analyzing statistical data, in detecting the use of statistics to promote a particular point of view, and in representing data through measures of central tendency and the normal curve. In Senior 4 the variability in data sets is considered.

Note that at each level the following topical strands appear in addition to Problem Analysis and Analysis of Games and Numbers: Geometry and Measurement, Probability and Statistics, and Money Matters. The Life/Career Project at Senior 4 requires students to investigate three potential careers, one of them in depth, including preparation required (mathematical and other), and such numerical aspects as income and budgeting.

Perhaps the most novel aspect of the Consumer Mathematics program is the external Provincial Assessment, still in pilot form, at the end of Senior 4. Carried out for the first time in January 1999 (at the end of first semester), the assessment consisted of three major aspects: a portfolio, an assigned project and an interview. These are described briefly below as they have evolved to date. They are seen as an alternative to a written examination of 2 or 3 hours, and more congruent with the mathematical and pedagogical aims of the course.

The portfolio consists of items of class work representing the various units of the Senior 4 course. Students select items for inclusion and must be able both to indicate why the item was included and to discuss the content of the item and the unit of which it was a part. The contents of the portfolio must be organized in a demonstrable manner and appropriately presented. Students are provided with some specifications regarding the portfolio, but much of the work of organizing and selecting is up to them.

The assigned project is done primarily outside of class either individually or in groups of not more than three students and with minimal teacher direction. An open ended question to be answered is provided early in the term. For the January 1999 assessment, students were asked to determine the best long distance telephone rates. It was hoped that they would examine the rates offered by long distance providers for various kinds of calling patterns. On the basis of the data collected and appropriate calculations they could draw a conclusion for each calling pattern. Most students indeed did something like this.

Finally, a 20-minute interview by a pair of assessors (experienced teachers, one male, one female) was scheduled for each student. Students were asked questions regarding items in the portfolio, the career/life project, the assigned project, and what they learned from the process of preparing this material. Five teams of two assessors interviewed close to 200 students from various parts of the province. In addition the teams marked the assigned project and the portfolio. Note that for the latter, the included items were

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marked by the teacher; the assessors were more interested in organization and presentation. Thus students received a mark for each of the three elements.

Our view is that the first try-out of this alternative assessment was extremely successful and essentially the same procedures will be tried again in June. Students generally performed well, preferred it to a pencil-and-paper exam, and found the experience worthwhile. Our initial look at the data in consultation with the classroom teachers indicates that, in general, students' performance in the assessment correlated well with their other work in the course. However, because of the interview component, marks in the external assessment reflected ability in oral communication skills more than is ordinarily the case.

References:

Blocksma, M. (1989). Reading the numbers. Markham, ON: Penguin Books.

Sutcliffe, A. (Ed.). (1996). Numbers: How many, how long, how far, how much...New York: HarperCollins.

The common curriculum framework for K-12 mathematics for grade 10 to grade 12: Western Canadian Protocol for Collaboration in Basic Education. (1996). [Available from the ministries of education in British Columbia, Alberta, Saskatchewan, Manitoba, Yukon Territory, and Northwest Territories]

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Au Québec: Deux Événements

Harry White Université du Québec à Trois-Rivières Harry_White@uqtr.uquebec.ca

Congress: VI / QCAV '99 (Vision Interface / Quality Control by Artificial Vision) Delta Hotel, Trois-Rivières, Québec, Canada 18-21 May 1999

La conférence VI / QCAV '99 est un événement unique pendant lequel se tiendront simultanément deux colloques scientifiques où seront présentés des résultats récents dans les domaines de la vision par ordinateur, et du contrôle de qualité par la vision artificielle.

Pendant trois jours, se succéderont des présentations de conférenciers invités de renommée internationale et d'articles arbitrés. En plus d'une soirée d'accueil, un banquet fournira l'occasion aux participants d'effectuer des échanges et des prises de contacts dans un cadre informel et convivial. Une session spéciale permettra aux étudiants de présenter leurs travaux de maîtrise ou de doctorat sous forme de posters non arbitrés. Des prix seront décernés aux meilleurs posters. Ce sera une occasion pour les étudiants de rencontrer des participants qui proviennent du milieu universitaire et du milieu industriel.

Pour plus d'informations, veuillez consulter les sites web suivants:

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http://www.dmi.usherb.ca/conferences/VI-99 http://www.dmi.usherb.ca/conferences/QCAV-99 rejoindre: Fathallah Nouboud@uqtr.uquebec.ca

VI / QCAV '99 is a unique event with two international research conferences that present the latest results in computer vision, and quality control by artificial vision. Each conference offers three concurrent days of invited and submitted papers. Time has been set aside for workshops and other events. A banquet provides additional opportunities to meet speakers and other attendees for informal discussion in a social setting.

A special poster session for graduate students is planned. There will be no review for this session but the best student poster presentations will be awarded. The aim is to offer graduate students the opportunity to present their masters or doctoral work, and to meet academic and industrial participants.

For more information please visit the following web pages: <u>http://www.dmi.usherb.ca/conferences/VI-99</u> <u>http://www.dmi.usherb.ca/conferences/QCAV-99</u> or contact: <u>Fathallah Nouboud@uqtr.uquebec.ca</u>

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Camp Mathématique

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Pour une deuxième année, l'UQTR sera l'hôte du camp mathématique qui aura lieu du 30 mai au 9 juin 1999. Ce camp est offert aux 24 étudiantes et étudiants qui ont obtenu les meilleurs résultats lors du concours mathématique de l'ordre collégial sous la responsabilité de l'Association mathématique du Québec. Le professeur Harry White est l'organisateur du camp mathématique 99. Les objectifs poursuivis sont de permettre aux étudiants et étudiantes de rencontrer des mathématiciennes et des mathématiciens professionnels, de les intéresser aux différents domaines des mathématiques, et de les encourager à poursuivre des études dans les sciences mathématiques ou dans des disciplines connexes.

Mathematics Summer Camp

For a second year, UQTR will host a summer camp for mathematics from May 30 to June 9, 1999. This special camp is offered to the 24 students at the college-level who scored highest on the College Contest of Mathematics, administered by the Mathematical Association of Quebec. Professor Harry White is the organizer. The goals of the camp are to have students who are talented in mathematics interact with professional mathematicians, to interest them in the various domains within mathematics, and to encourage them to pursue advanced study in the mathematical sciences or related disciplines.

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Méga congrès au Québec en 2000

Frédéric Gourdeau Université Laval fredg@mat.ulaval.ca

À l'occasion de l'Année mondiale des mathématiques, un congrès regroupant toutes les associations qui, au Québec, s'occupent de mathématiques et d'enseignement des mathématiques se tiendra à l'Université Laval les 5, 6 et 7 mai 2000.

C'est ainsi que l'AMQ, l'APAME, le GCSM, le GDM, le GRMS et MOIFEM ont pris la décision de remplacer leur rencontre annuelle (ou l'une de leur rencontre) par une rencontre conjointe. (Il est possible que le QAMT soit aussi de la partie, mais cela reste à confirmer.) On attend quelque 1000 participants.

Plus qu'une simple juxtaposition des rencontres de chacun des groupes, ce congrès permettra des rencontres et des discussions qui ne pourraient avoir lieu sans la présence de tous les intervenants en mathématiques au Québec. On planifie aussi des expositions mathématiques dans la lignée des exposciences, une conférence d'ouverture grand public (et le conférencier est ... presque confirmé!), des débats, et bien d'autres choses.

Si vous voulez en savoir plus, ou si vous désirez faire des suggestions, il me fera plaisir d'en parler avec vous (étant membre du comité organisateur). Et je vous donne rendez-vous à Québec en mai 2000!

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From BC: Westwood Elementary School Math Conference Wins Award!

Pam Hagen Westwood Elementary School Phagen@direct.ca

Those of you attending last year's conference at UBC may recall that at the end of Kathy Heinrich's plenary talk, "Communicating Mathematics," she asked Pam Hagen to come up on stage and share with us some feedback from a child who took part in the student math conference held at Pam's school, Westwood Elementary. Well, Pam has some more welcome news for us, as a follow up! But first she sets the scene at the UBC CMESG/GCEDM Meeting for us again....

The comments from the feedback form completed after the conference were as follows:

- Question 1: Do you think your views about math have changed? Yes or No. The student circled Yes.
- Question 2: In what ways do you think your views have changed? The student answered, "Before math seemed to be plus division and times. Now math seems like a rainbow each colour new different and very exciting."
- Another Question: Anything you didn't like? "Well at each session I seemed to be enjoying myself when ... time to leave to go to another session."

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Those in the audience were delighted with the child's comments. What has now become even more remarkable about those comments is that I used a copy of the student's feedback form as a reference for a submission. The submission for a one day student math conference for K-5 students has recently received a national teaching award from the CTF, Canadian Teachers' Federation. It is the only math project to receive national attention this year.

This year Kathy Heinrich is again Westwood Elementary's keynote speaker, Malgorzata Dubiel will again be presenting some excellent workshops, and the President of the BCAMT Ron Coleborn is going to attend to do workshops thanks to the assistance of the Pacific Institute for the Mathematical Sciences. We have also received other support from PIMS through Klaus Hoechsmann.

I will not be able to attend CMESG this year in St. Catharine's but I do want the educators of teachers to know that what they do with classroom teachers CAN and DOES have significant effect on young students and their developing minds. I wish I could attend the session that my math mentor, Tom O'Shea, is doing -- it sounds very exciting and fascinating. Through the teaching of math I have come to love math and try to pass this on to the young G3 students that I now teach.

I had myself been keyed into math when I had contact with Malgorzata Dubiel, but it was with the teaching of math that I began to live it.

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Changing the Culture II: Narrowing the Gap

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and

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The Second Annual Conference, organized and sponsored by the Pacific Institute for the Mathematical Sciences, and held February 19-20, 1999, at SFU Harbour Centre, again brought together mathematics researchers, educators and school teachers from all levels to work towards narrowing the gap between those who enjoy mathematics and those who think they don't.

The programme opened with a plenary talk by Leah Keshet (UBC) -- The Study of Living Things: So, What's Math Got To Do With It?? -- showing an abundance of mathematical models in biology. The first day closed with a public lecture by Doris Schattschneider (Moravian College, Pennsylvania) -- Ingenious mathematical amateurs: M.C. Escher (artist) and Marjorie Rice (homemaker) -- describing how two talented and persevering amateurs made substantial contributions to the field.

The pivotal event on Friday was a 1 and 3/4 hour panel discussion on the question: To what extent is an appreciation of mathematics possible without mathematical training? The three very different positions taken by the panelists Kanwal Neel (BCAMT), Mike Fellows (UVic), and Jeremy Quastel (U of T) elicited a lively exchange with the audience, including the moderator, Klaus Hoechsmann.

In the morning, three discussion groups had been formed to ponder the questions: (1) Can biology be a major context for math classes? (2) How do visualization and logic interact in mathematics? (3) Is applied

math easier than pure math? (4) Can people be taught to like mathematics? The groups met again after the panel discussion, to continue their deliberations.

Saturday's opening talk was given by Adrian Lewis (University of Waterloo) -- Would Pythagoras have liked Mozart? -- showing, among other things, that one of Mozart's last quartets begins with a musical square root of two. It was followed by a panel, moderated by Malgorzata Dubiel, which examined the question: Mathematics and the Arts: where do they meet? Owen Underhill (SFU) spoke about music -- in particular, his opera Star Catalogues. Doris Schattschneider explained her mathematics course for Fine Arts Majors, and Ron Coleborn (BCAMT) enlivened his plea for a thinned out curriculum by his considerable acting talent.

For more information, see the conference website: www.pims.math.ca/sections/education/ctcbe.html.

Additional support for the conference was provided by the CMS and by SFU.

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And on a Personal Note ... News About Members

1998 an Important Year for Medhat Rahim

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1998 was a very significant year for our colleague, Medhat Rahim. He writes: During my 1997-98 sabbatical leave I was fortunate to be able to travel to various international conferences. I contributed to the International Federation for Information Processing (IFIP) Conference in Grenoble, France, in October, 1997, and in the Spring of 1998, I was invited to deliver a paper on "Some Cultural Contributions of Babylon Mathematics and Social Sciences to the Civilization of Human Kind" during the International Conference of Mathematics Education, History of Mathematics and Cultural History of Mathematics Informatics held at Beijing Normal University in China.

During the sabbatical I also finished writing a manuscript entitled, "Inferential Analysis in Educational Research: An Introduction."

Finally, I am very pleased to say that effective July 1, 1998, I was honoured to be promoted to the rank of Full Professor.

[Editor's Note: Congratulations, Medhat! These items should have gone in the Fall Newsletter. My apologies. D.F.]

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Math Education in Newfoundland/Labrador: News from John Grant McLoughlin

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After 3 _ years at Okanagan University College in Kelowna, BC, I moved in January 1998 to St. John's, NF. I am in my second year as an assistant professor in the Faculty of Education at Memorial University of Newfoundland (MUN). Presently I am the only fulltime faculty member in mathematics education at MUN though that will potentially change soon with a search in place for a second person. My principal teaching responsibilities include primary/elementary methods courses along with graduate courses and related supervision of Master's students in mathematics education. The range of courses will extend into the areas of diagnosis and remediation, statistics, research methods, and secondary methods over the next year or two.

This is not my first stint at MUN. I taught in the Mathematics and Statistics Department at Sir Wilfred Grenfell College (MUN) in Corner Brook during 1993 and 1994 and also taught MUN's first year university programme math courses in Labrador during 1990 and 1991. This connection with the math community at MUN figured prominently in my decision to return to MUN. Since joining the Faculty of Education, I have taught one entry level math course and have participated in the departmental links with high schools in the province. Faculty in mathematics have regularly hosted an annual high school seminar for two days in May. My contributions to last year's seminar included a talk entitled "Triangles and Squares: The Numbers Behind the Shapes." In addition, the Newfoundland and Labrador Teachers' Association High School Math League is held five times annually at various sites throughout the province. Peter Booth, Bruce Shawyer, and I have collaborated on the preparation of the questions for about 9 years. A collection of problems from recent years is being organized into a book for the Canadian Mathematics Society (CMS) "A Taste of Mathematics" series for high school students. It's enjoyable having the opportunity to be present at the regular games in the region. Several math faculty, together with some undergraduate students and high school teachers from 12-15 schools in the St. John's area, gather along with the teams of four for the Saturday morning games. This is a valuable opportunity for regular discussion and interaction with high school teachers.

Present research efforts include a project focused upon the mathematical problem solving skills of some grade five students. Also, a recent initiative with a local school is intended to address the mathematical weaknesses of a small group of elementary students. The focus is on the basic operations with whole numbers, and related extensions into organizing information from statements of problems. The broad areas of mathematical problem solving, problem posing, and recreational mathematics continue to represent areas of interest. One point concerning research related to recreational mathematics is worth noting here. Many people are not aware that University of Calgary houses the Eugene Strens Collection, a special collection in the library devoted exclusively to recreational mathematics.

I have had the pleasure of visiting the site on two occasions. Interested recreational mathematicians may wish to visit the website as a starting point: www.ucalgary.ca/library/sfgate/strens. The website was introduced shortly after my last visit there in June 1997. Richard Guy in the math department at University of Calgary would be helpful to individuals interested in learning more about the Collection. I would also welcome correspondence on the subject.

I am looking forward to the CMESG meeting in St. Catharines. It is hoped that some of you will be visiting St. John's in advance to attend the CMS meeting from May 29 to June 1. The Education Session will focus on Mathematics Contests. My own contribution is a paper entitled "Popular Distractors: One Avenue into the Mathematical Thinking Underlying Errors in Math Contests." Recently I commenced a three year appointment to the CMS' Education Committee.

ICMI As An Organisation

Our colleague Bernard Hodgson, as the ICMI representative, suggested that it would be timely and appropriate to repeat Mogens Niss's article on the organisation itself. The piece was first published in the "Bulletin of the International Commission on Mathematical Instruction," no. 43 (December, 1997), pp. 14-17. The reprinted article follows.

From time to time, ICMI officials are asked by people inside or outside of the ICMI community what ICMI is, what it does, and how it operates. Presumably, the majority of the readers of this Bulletin already have this information, at least in outlines. However, as the readership is changing, and in fact also growing, it might be worth giving a brief account of the basic aspects of these questions.

I. Background

The International Commission on Mathematical Instruction, ICMI, was first established at the International Congress of Mathematicians held in Rome, Italy, in 1908. The first President was Felix Klein while the first Secretary-General was Henri Fehr. From the very beginning, L'Enseignement mathematique, founded by Fehr in 1899, was adopted as the official organ of ICMI, which it still is, in conjunction with this Bulletin. When the international mathematical community was reorganised after the Second World War, ICMI was reconstituted (in 1952) as an official commission of the International Mathematical Union, IMU. This is still the state of affairs. Thus, the Terms of Reference of ICMI are established by the General Assembly of the IMU which is also responsible for the election of the Commission's Executive Committee. Moreover, the far majority of the funding of ICMI comes from IMU. The fact that IMU is a member organisation of the International Council of Scientific Unions, ICSU, implies that IMU, and hence ICMI, are to abide to the ICSU statutes, one of which establishes the principle of non-discrimination. According to this principle, scientists involved in activities under ICSU auspices have the right and freedom to associate in international scientific activity regardless of citizenship, religion, political opinion, ethnic origin, sex, and so forth. Apart from observing general IMU and ICSU rules and principles, ICMI works with a large degree of autonomy.

II. Structure

The members of ICMI are not individuals but countries. Member states are of two categories.

All those countries which are members of the IMU are automatically members of ICMI as well. The membership of IMU for a given country is monitored and controlled by a so-called Adhering Organisation, AO, (typically, the national academy of science, the national mathematical society, or suchlike) which in turn appoints a National Committee for Mathematics to be responsible for the executive aspects of the relations with the IMU.

Besides, ICMI, with the consent of the IMU, may co-opt, as so-called non-IMU members, countries which for some reason or another are unable to join the IMU. Co-option of a country takes place on the basis of an application submitted to ICMI by some body which is chosen to speak on behalf of the major CMESG/GCEDM 13 GCEDM/CMESG

organisations, societies, and associations of mathematics, mathematics teaching, and mathematics education research in that country. If the application is successful, the applying body will normally act as an equivalent of the AO of that country with respect to ICMI.

ICMI, as a commission, is composed of two components: The Executive Committee, EC, and the National Representatives. The EC is elected by the General Assembly, GA, of the IMU for a four year term. The composition of the present EC can be found in the beginning of this Bulletin. The election of the next EC will take place at the GA of IMU to be held in conjunction with the International Congress of Mathematicians, in Berlin, Germany, in August 1998. The new EC will take office as of 1 January 1999. The National Representatives, both of IMU and non-IMU member states, are appointed by/ or on behalf of the AO or the CM of their respective countries. The EC and the National Representatives together constitute the General Assembly of ICMI which is summoned every four years in conjunction with the quadriennial International Congresses on Mathematical Education. Representatives of the so-called Affiliated Study Groups (see below) are invited to attend the GAs without the right to vote.

In quite a few countries National Sub-Commissions of ICMI have been established. National Sub-Commissions serve the dual purpose of (a) providing an organised forum for exchange of information and for dealing with issues of mathematics education at a national level, and (b) of offering a link between the national and the international mathematics education communities.

Every year ICMI has to file a scientific and a financial report of the activities of that year for the endorsement of the IMU. Both reports are published in the ICMI Bulletin. Quadrennial reports are presented to the General Assembly of ICMI.

The ICMI EC publishes a semi-formal Bulletin twice a year, in June and December. For the time being it is edited by the Secretary of ICMI.

III. Affiliated Study Groups

Since the mid-70's a number of study groups, each focussing on a specific field of interest and study, have obtained affiliation to ICMI as a so-called Affiliated Study Group. These are:

HPM: The International Study Group for the Relation between the History and Pedagogy of Mathematics

PME: The International Group for the Psychology of Mathematics Education

IOWME: The International Organization of Women and Mathematics Education

WFNMC: The World Federation of National Mathematical Competitions

The Affiliated Study Groups are neither appointed by ICMI nor operating on behalf of or under the control of ICMI. In other words, they work independently, also in terms of finances, but produce quadrennial reports to be presented to the ICMI GAs. In addition to meeting in connection with the International Congresses on Mathematical Education, the Affiliated Study Groups hold separate meetings on a more or less regular basis.

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IV. ICMI activities

i) ICME

Probably the most important of the activities undertaken by/on behalf of ICMI are the International Congresses on Mathematical Education, ICME, which are held every four years under ICMI auspices. So far 8 Congresses have been held since ICME-1 in 1969 (an 'irregular' year in the sequence). ICME-9, to be held in Makuhari near Tokyo, Japan, in 2000 is under planning. The scientific programme is planned by an International Programme Committee, IPC, which is appointed by but in principle working independently of the ICMI EC. However, in order to ensure continuity and conformity with general ICMI principles the ICMI EC normally has 1-3 representatives on the IPC. The practical and financial organisation of the ICMEs are the independent responsibility of the Local (or National) Organising Committee, again under the observation of general ICMI principles. In other words, it is not ICMI as such which is organising an ICME, neither in terms of the scientific nor of the practical aspects of the Congress. In spite of that, all ICMEs are held under ICMI auspices.

ii) ICMI Studies

Since the mid-80's ICMI has invested a considerable and increasing effort in mounting the so-called ICMI Studies to deal with key issues or topics of particular significance to contemporary mathematics education. An ICMI Study may give emphasis to either analytical or action oriented investigations but some analytical component will always be present.

The typical scheme for an ICMI Study is as follows:

The ICMI Study themes are decided upon by the ICMI EC. Once a theme has been chosen, the EC appoints a fairly small International Programme Committee which on behalf of ICMI is responsible for conducting the Study. Usually a country which is willing to host the corresponding Study Conference has been identified concurrently with the appointment of the IPC.

The first task of the IPC is to produce a Discussion Document in which a general problematique, a number of key issues and sub-themes related to the theme of the Study are identified, presented and described in a preliminary way. The Discussion Document is then published and circulated internationally as widely as possible in journals, newsletters, institutions, etc., including L'Enseignement mathematique and the ICMI Bulletin. Readers are invited to react to the Discussion Document by sending abstracts of papers, proposals, raising issues etc.

On the basis of the submission received and the deliberations of the IPC, the next step is for the IPC to invite a limited number (50-100) of individuals to participate in an invited Study Conference, organised by the IPC. This conference will form a working forum for investigating the theme of the Study. Particular emphasis is given to bringing together both experts in the field and newcomers with interesting ideas or promising work in progress, as well as to gathering representatives with a variety of backgrounds from different regions, traditions, and cultures.

The final outcome of an ICMI Study is a Study Volume, published in the ICMI Study Series (edited by the President and the Secretary of ICMI). An ICMI Study Volume is a carefully structured and edited book, not a conference proceedings. The editors are sub-set of the IPC, normally with the Chair as the editor-in-chief. Sometimes, however, also a conference proceedings is published in addition to the Study Volume.

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For further information about recent and forthcoming ICMI Studies, please see elsewhere in this issue.

iii) Solidarity Programme and Fund

In 1992 ICMI, on the suggestion of its President, Miguel de Guzman, established a Solidarity Programme to help the furtherance of mathematics education by means of research and development in countries where there is a need for it that justifies international assistance. The first stage in this programme was the creation of a Solidarity Fund based on private contributions from individuals, associations etc. The Fund is to be activated to support concrete initiatives that may foster solidarity in mathematics education between well-defined quarters in developed and less developed places in the world.

iv) Regional meetings

In addition to the international activities conducted under direct ICMI involvement, ICMI from time to time sponsors Regional Conferences in different parts of the world. So far the majority of regional conferences have been held in East Asia and Latin America. A regional conference is organised at a regional level and on a regional initiative. On certain conditions the organisers may apply for ICMI sponsorship of their conference. Normally such a sponsorship is of a moral rather than of a financial nature. To the extent ICMI provides financial sponsorship as well (which can only happen with conferences held in non-affluent countries), the funding is merely symbolical.

v) Ad hoc activities

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The above-mentioned activities are of a more or less regular nature. In addition to those, ICMI sometimes involves itself in irregular activities on an ad hoc basis. For instance, ICMI is involved in planning parts of the World Mathematical Year 2000 activities. Also, ICMI is normally involved in planning some of the items on the programme of the International Congresses of Mathematicians, the ICMs.

Mogens Niss Secretary of ICMI (1991-1998)



UPCOMING PROFESSIONAL MEETINGS: 1999

SEACME-8: Mathematics for the 21st Century. May 30-June 4, Manila, Philippines. CMS. May 29-June 1/SMC. Du 29 mai au 1 juin, MUN, St. John's .

Technology in Mathematics Education at the Secondary and Tertiary Levels. June 3-4, Brock University, St. Catharines.

CMESG. June 4-8/GCEDM. Du 4 au 8 juin, Brock University, St. Catharines.

SCEE. Du 9 au 12 juin. /CSSE. June 9-12, Université de Sherbrooke. PME-NA XXI. October 23-26, Cuernavaca, Morelos,

Mexico. International Conference on Mathematics Education into the 21" Century: Societal Challenges, Issues and Approaches. November 14-18, Cairo, Egypt. SMC. Du 11 au 13 décembre:/CMS. December 11-13, Université de Montréal.



CMESG/GCEDM BUSINESS

Procès-verbal Assemblée générale annuelle du GCEDM/CMESG U.B.C., 1^{er} juin 1998

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GCEDM/CMESG

Le président Bernard R. Hodgson ouvre la réunion en présence de 42 membres du GCEDM.

- 1. L'ordre du jour est adopté tel que distribué.
- Le procès-verbal de l'assemblée générale annuelle de 1997, tenue à l'Université de Lakehead, est adopté, sur proposition de Tom Kieren, appuyée par Joel Hillel.
- Suites au procès-verbal
 - Le conseil d'administration de FLM a été élu. Tom Kieren et Lesley Lee vont présenter un rapport à ce sujet au point 8.
 - b) Les sites des quatre prochaines rencontres sont connus : 1999 St. Catharines, Université Brock
 2000 Montréal
 2001 Edmonton, Université d'Alberta
 2002 Kingston, Université Queen's

4. Annonce

Bernard Hodgson annonce à l'assemblée le décès de Jerry Vervoort, de l'Université Lakehead. Medhat Rahim prononce quelques mots en souvenir de ce collègue estimé.

5. Rapport du trésorier (Eric Muller)

Eric présente le rapport financier de 1997, et souligne que ce rapport ne tient pas compte des dépenses pour la rencontre de 1998 et des coûts de production des Actes de la rencontre de 1997 (qui s'élèvent à \$1500).

6. Les rapports des éditeurs

Yvonne Pothier, éditrice des Actes, présente un bref rapport.

- Nous n'obtenons plus le prix spécial que nous avions auparavant de la part de l'imprimeur, ce qui explique les dépenses de \$1500.
- Elle a préparé des directives pour les personnes qui doivent soumettre des rapports pour les Actes. Tous les rapports sont dus le 30 août, 1998.
- Yvonne est à sa dernière année comme éditrice des Actes.

Doug Franks, éditeur du bulletin, présente un bref rapport.

- Doug remercie tous ceux qui ont écrits des articles et s'excuse des difficultés occasionnées par l'envoi du bulletin par courriel. Il tentera de résoudre les problèmes qui lui ont été signalés avant l'envoi du prochain bulletin.
- Par ailleurs, Doug a accepté de continuer d'être éditeur du bulletin pour une autre année.

David Reid et Linda Gattuso, éditeurs de la page web, présentent leur rapport.

- La présentation des recherches faites par la communauté d'éducation en mathématiques au Canada est à compléter. On désire avoir des contributions à ce sujet, et les membres du GCEDM sont invités à consulter le site pour voir la nature des informations désirées.
- · La page web changera peut-être d'adresse à l'automne.
- Des suggestions pour la nouvelle page d'accueil peuvent être envoyées à David ou à Linda.
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- Florence Glanfield demande si le bulletin pourrait être posté sur le site web. Suite à une discussion, Lars Jansen suggère que le comité exécutif décide quelles parties du bulletin devraient être mises sur Internet.
- Rapport de l'organisatrice locale.
 Susan Pirie indique que les choses fonctionnent bien!
- 8. Rapport du conseil d'administration de FLM

Rapport de Lesley Lee (présidente du conseil d'administration)

- Les quatre membres élus du conseil d'administration ont pris les rôles suivants au sein du conseil: Lesley Lee, présidente; Joel Hillel, ler vice-président; Bill Higginson, 2e viceprésident; et Tom Kieren, sccrétaire. Le trésorier du GCEDM est également trésorier de FLM.
- Lesley rappelle que le GCEDM a pris le contrôle de FLM l'an dernier. Elle précise que le conseil d'administration n'est pas le conseil de rédaction.
- · Un poste de membre sans affectation particulière est aussi prévu.

David Pimm (éditeur de FLM)

- David termine sa première année en tant qu'éditeur.
- Les amis de FLM se sont réunis vendredi dernier. Les gens présents ont discuté du nombre et de la qualité des article soumis ainsi que des manières possibles d'augmenter le nombre de lecteurs. David a indiqué que Les amis de FLM est ouvert à tous les membres du GCEDM, et invite les membres à participer à la réunion de l'an prochain à Brock!
- Il y a eu un problème pour le numéro de novembre en raison de la grève postale; en conséquence, le numéro de février a été en retard. David essaiera de publier les prochains numéros à temps, et il se propose de changer les dates de publication pour qu'elles soient également réparties dans l'année.
- Des articles continuent effectivement à être soumis!

Geoff Roulet (responsable du volet administratif de FLM) présente son rapport.

- Le journal est financièrement solide.
- Il est nécessaire d'utiliser le courrier par avion pour les abonnés hors du continent américain.
- Le coût d'abonnement de \$27 n'est pas pour les membres du GCEDM (qui reçoivent automatiquement FLM). À l'avenir, l'avis à cet effet ne sera pas expédié aux membres en bonne et due forme du GCEDM.

Eric Muller remercie Geoff pour la contribution financière de l'Université Queen's.

Une courte discussion sur la santé financière du journal suit. Il y avait 107 membres du GCEDM l'an dernier, nombre qui a augmenté cette année. Tom Kieren précise que bien que FLM soit dans une bonne situation financière, les fonds en réserve sont peu importants et la situation est donc fragile. Tom O'Shea mentionne que des copies d'anciens numéros de FLM sont à Simon Fraser. Il enverra ces exemplaires à Queen's. David Pimm nous informe qu'il reçoit des demandes pour des anciens numéros mais que certains ne sont plus disponibles.

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9. Le rapport du représentant à la CIEM - Bernard R. Hodgson

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- Les Actes d'ICME 8 devraient paraître sous peu et chacun des participants à ICME 8 doit en recevoir une copie. On peut aussi en acheter en écrivant directement à la CIEM.
- ICME 9 aura lieu au Japon en l'an 2000.
- Une étude de la CIEM est en court. Elle porte sur l'histoire des mathématiques et son influence sur l'enseignement.
- · La prochaine étude portera sur l'enseignement au niveau des collèges.
- Il n'a pas d'information à présenter sur les études présentement en cours en Asie et en Australie.
- 10. L' an 2000 est l'année mondiale des mathématiques
 - Bernard indique que la CIEM et l'UNESCO ont déclaré l'an 2000 Année mondiale des mathématiques. La SMC/CMS travaille sur des projets spéciaux pour souligner cet événement.
- 11. Présentation de l'exécutif 1998-99 par Bernard Hodgson.
 - Présidente : Malgorzata Dubiel
 - Vice-présidente : Susan Pirie
 - Trésorier et responsable du membership : Eric Muller
 - Coordonnatrice des rencontres : Mary Crowley (Eric Muller est l'organisateur local pour 1999)
 - Membre sans affectation particulière : Frédéric Gourdeau
 - Secrétaire : Elaine Simmt

12. L'avenir du groupe, Malgorzata Dubiel, présidente

- Malgorzata remercie Bernard Hodgson et Lesley Lee pour leurs contributions au GCEDM.
- Elle présente un certain nombre de questions auxquelles elle compte s'attaquer pendant son mandat à la présidence du groupe.
 - a) Identifier des conférenciers pléniers, des responsables pour les groupes de travail et les groupes thématiques pour les prochaines rencontres.
 - b) Le GCEDM n'est pas très actif entre les réunions. La communication électronique ouvre une nouvelle possibilité que nous pourrions considérer.
 - c) Que voulons-nous pour notre groupe? Comment voulons-nous continuer? Comment pourrions-nous enrichir ce que nous faisons déjà?
 - d) Voulons-nous faire quelque chose de spécial pour notre 25e anniversaire?
 - e) Voulons-nous un logo?
 - f) Voulons-nous faire quelque chose d'autre que notre rencontre annuelle?
 - Suggestions des membres de l'audience pour des conférenciers.
 Jill Alder, Susan Pirie, Ian Stewart (Université de Warwick), David Pimm, Brian Rotman (Bristol, Memphis), Susan Gerofsky, A. K. Dewdney (Western Ontario), Tom O'Shea, Micheal Fellows (Université de Victoria), Malgorzata Dubiel, John Fauvel (Open University). On suggère aussi un groupe de travail sur l'histoire des mathématiques. Toutes les autres suggestions devraient être transmises à un membre du comité exécutif.
 - Les postes de trésorier et d'éditeur des actes seront annoncés.

13. Divers

Sandy Dawson et Eric Muller rendent hommage à Bernard Hodgson. Ils remercient Bernard pour ses 11 années au service du GCEDM. Des remerciements spéciaux lui sont adressés pour la

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quantité astronomique de traduction de haute qualité qu'il a faite, et ce bien au-delà de ce qu'on pouvait attendre d'une seule personne.

Rencontre annuelle du GCEDM en 1999 à l'Université Brock, du 4 au 8 juin (dates révisées après la rencontre).

Minutes of CMESG/GCEDM Annual General Meeting University of British Columbia June 1, 1998

Meeting called to order by Bernard Hodgson (chair) with 42 members present.

- 1. The agenda was adopted.
- The minutes of the 1997 annual meeting at Lakehead University were adopted. (Tom Kieren, Joel Hillel)
- 3. Business arising from the minutes:
 - a) FLM board was elected. Tom Kieren and Lesley Lee to report on elections (see item 8).
 - Sites for future conferences were identified: 1999 St. Catharine's, Brock University 2000 Montreal 2001 Edmonton, University of Alberta 2002 Kingston, Queen's University
- 4. Announcement.

b)

Bernard Hodgson announced the death of Jerry Vervoort, Lakehead University. Medhat Rahim offered a reflection in memory of his esteemed colleague.

5. Treasurer's report - Eric Muller

Eric submitted the financial statement for the year Jan. 1 - Dec. 31, 1997. The statement does not reflect expenses for the 1998 annual meeting nor does it include the cost of the 1997 Proceedings (\$1500).

6. Editors' reports

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Yvonne Pothier, Proceedings editor, reported.

- The \$1500 expense is because we are no longer getting a special deal from the printer.
- She has prepared guidelines for people submitting reports for the Proceedings. All reports are due August 30, 1998.
- · This is the last year that Yvonne will be editor of the Proceedings.

Doug Franks, newsletter editor, reported.

 Doug thanked all of the contributors and apologized for the problems sending the newsletter by email. He is looking into the problems and hopes to have them resolved by the time the next newsletter is ready for publication.

- Doug has agreed to continue his term as newsletter editor for another year.
- David Reid and Linda Gattuso, web page editors, reported.

- The summary of research in mathematics education community in Canada is still under construction. The editors are still looking for contributions. CMESG members should look up the site for an example of a submission.
- · There may be a new web site address this fall.
- Suggestions for the site can be submitted to David or Linda.
- Florence Glanfield asked if the newsletter might be published on the web site. Some discussion
 followed. There is a concern about the nature of CMESG business that is put on the web site.
 Lars Jansen suggested that the executive make a decision as to what material from the
 newsletter be put on the web site.
- Local Organizer's report. Susan Pirie indicated that things were running smoothly.
- 8. FLM Board of Directors Report.
 - Lesley Lee (President of the Board of Directors) reported.
 - The four elected members of the Board of Directors have taken specific roles on the board: Lesley Lee, president, Joel Hillel, 1st vice president, Bill Higginson, 2nd vice president and Tom Kieren, secretary. The CMESG treasurer is also treasurer of FLM.
 - Lesley reminded the membership that CMESG took over FLM last year and that the Board is not the editorial board but an administrative board.
 - · There also is a position of member at large.

David Pimm (Editor) reported.

- · FLM had its first year under David's direction.
- "Friends of the FLM" met on Friday May 29, 1998. It was a small group that talked about the number of submissions and quality of those submissions. They also discussed possible ways of increasing readership. David indicated that the friends of FLM is open to all members of CMESG. He indicated that there would be another meeting of the friends of FLM next year at Brock.
- There was a problem getting the November issue out due to the postal strike and then the February issue was late. David will try to get the issues out on time. He is planning to change the publication dates so that there are equally spaced editions.
- · Papers are being submitted.
- Geoff Roulet (managing editor) reported.
- · The journal is financially sound.
- · Air mail is needed for off continent subscribers.
- The \$27 renewal fee that was requested is not for CMESG members. The journal comes with a CMESG membership. In the future, the FLM renewal notice will not go to active CMESG members.
- · Eric Muller thanked Geoff for Queen's financial contribution.
- A short discussion on the financial status of the journal took place. It was learned that there
 were 107 CMESG members last year and a few more this year. Tom Kieren indicated that
 although FLM is in good financial shape the actual amount of money is quite small thus the
 financial situation is fragile.
- Tom O'Shea indicated that there are still back issues of FLM at Simon Fraser. Tom will send the back issues to Queen's. David Pimm indicated that there have been requests for back issues and some are no longer available.

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- 9. ICMI representative report Bernard Hodgson
 - The ICME VIII proceedings are coming (no precise date). All ICME participants will receive
 proceedings; others can write to ICMI for copies.
 - ICME IX will be held in the year 2000 in Japan.
 - · The ICMI Study: History of Mathematics and Influence on Teaching
 - · The next ICMI study will be on teaching at the college level.
 - · There is no information to report on the ICMI studies in progress in Australia and in Asia.
- 10. World Mathematics Year 2000
 - Bernard Hodgson reported that the International Congress of Mathematics Educators and UNESCO have declared the year 2000 the World Mathematics Year. CMS is working on special projects for WMY 2000.
- 11. 1998 1999 executive were introduced by Bernard Hodgson.
 - President is Malgorzata Dubiel
 - · Vice President is Susan Pirie
 - · Treasurer & Membership Secretary is Eric Muller
 - Conference coordinator is Mary Crowley (Eric Muller is local organizer 1999)
 - Member at large is Frédéric Gourdeau
 - Recording Secretary is Elaine Simmt
- 12. Future Directions, Malgorzata Dubiel, president
 - · Malgorzata thanked Bernard Hodgson and Lesley Lee for their contributions to CMESG.
 - She raised a number of questions that she would like to address in her term as president.
 - a) Who might we identify as plenary speakers, working group leaders and topic group leaders for future meetings?
 - b) CMESG has not been very active between meetings. Electronic communication opens up possibilities that we might consider.
 - c) What do we want for our group? How do we want to continue? How might we enrich what we already do?
 - d) Do we want to do something special for our 25th anniversary?
 - e) Do we want a logo?
 - f) Do we want to do anything other than our annual meeting?
 - · Suggestions for speakers for future meetings from the floor:

Jill Adler (South Africa), Susan Pirie, Ian Stewart (U of Warwick), David Pimm, Brian Rotman (Bristol, Memphis), Susan Gerofsky, A. K. Dewdney (U of Western Ontario), Tom O'Shea, Micheal Fellows (U of Victoria), Malgorzata Dubiel, John Fauvel (Open University). A history of mathematics working group was suggested. Any other suggestions should be passed on to a member of the executive.

- · We will be advertising for nominations for a proceedings editor.
- · We will be advertising for nominations for a treasurer.
- 13. Other business

Sandy Dawson and Eric Muller paid tribute to Bernard Hodgson. Bernard was thanked for his 11 years of service to CMESG. A special thanks for the volumes of articulate translations Bernard has done—service well beyond what was expected.

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1999 CMESG conference. Brock University, June 4 - 8, 1999. (revised)

A Position in Mathematics Education

The Faculty of Education at Lakehead University invites applications for a tenure-track appointment in Mathematics Education commencing August 1, 1999. The Faculty of Education has 26 full-time faculty members and offers Preservice, Master of Education, In-service, Native Teacher Education, and Native Language Instructors' Programs. A proposal for a joint PhD program has been formulated and is in progress.

Normal qualifications for this position include an earned doctorate in Mathematics Education. Candidates shall also have documented evidence of successful Primary/Junior Mathematics teaching experience and should possess or show evidence of the ability to develop a research program in Mathematics Education. Responsibilities include teaching undergraduate and graduate students, and supervision of student teaching and graduate students.

Applications should be accompanied by a detailed curriculum vitae and names and addresses of at least three referees. This position is subject to budgetary approval. Applications should be submitted to:

Dr. Fentey Scott, Acting Dean Faculty of Education Lakehead University 955 Oliver Road Thunder Bay, Ontario P7B 5E1 Phone: (807) 343-8199 e-mail: deaned@sky.lakeheadu.ca

[Applications received by May 15, 1999 will be given preference.]

In accordance with Canadian Immigration regulations this advertisement is directed first to Canadian citizens and permanent residents. Lakehead University is committed to employment equity and encourages applications from women, members of visible minorities, aboriginal peoples, and persons with disabilities.

Newsletter Editor / Editeur du Bulletin

Please submit contributions to / Veuillez envoyer vos contributions à:

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L'EXÉCUTIF DU GCEDM CMESG EXECUTIVE 1998-1999

The members of the executive extend an invitation to you to contact us about any item of interest. If you have something you want to suggest, if you have a concern you wish to raise, if you want more information, etc., please let one of us know. In order to be of service to the membership, we need to be aware of what your interests are.

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Elaine Simmt, Recording Secretary 341 Education South Dept. of Secondary Education University of Alberta Edmonton, AB T6G 2G5 email: elaine.simmt@ualberta.ca Fax: (403) 492-9402 Les membres du Comité exécutif vous invitent à leur faire part de votre point de vue concernant n'importe quel aspect de la vie du GCEDM. Que ce soit pour transmettre suggestions ou commentaires, ou encore pour être mieux informé, n'hésitez pas à entrer en contact avec l'un d'entre nous. En nous faisant connaître vos intérêts, vous nous aidez à mieux vous servir.

Susan Pirie, Vice-President

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