The NEWSLETTER Is a publication of the Canadian Mathematics Education Study Group

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:

1) to study the theories and practices of the teaching of mathematics
2) to promote research in mathematics education
3) to exchange ideas and information about all aspects of mathematics education in Canada
4) to disseminate the results of its work.

Ce BULLETIN est une publication du Groupe canadien d'étude en didactique des mathématiques

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 mathématiques à tous les niveaux. Les buts du Groupe sont les suivants:

1) susciter une réflexion critique sur la théorie et la pratique de l'enseignement des mathématiques
2) encourager la recherche en didactique des mathématiques
3) faciliter l'échange d'idées et d'information sur tous les aspects de la didactique des mathématiques au Canada
4) faire connaître les résultats de ses travaux.

President's Message

The annual meeting in Regina last June was a resounding success, and much of the credit for that must go to Vi Maeers. The hospitality was wonderful, the organization was superb, and the program was lively, varied and extremely rich. The only thing that might have been improved upon is the large expanse of semi-arid ground found between some of the buildings. Vi assures us, however, that when we next return to Regina, those areas will be lush with green grass. Many thanks, Vi, for a job very well done.

And now we look forward to London, Ontario as Doug Edge prepares for us to descend upon the University of Western Ontario the last weekend of May, 1995.

The Executive Committee met September 24th at York University. Many thanks to Pat Rogers for arranging the excellent facilities for our meeting. We thank Pat's Dean, Stan Shapson, for an evening meal for the Executive, and a novel experience it was.

At this meeting Executive received a report from Doug outlining his plans for 1995 and they looked most impressive. Details regarding the program for that meeting can be found elsewhere in the Newsletter.

The Executive also named the sites of the 1996 and 1997 annual meetings. Yvonne Pothier will plan a meeting at Mt. St. Vincent in Halifax for us in 1996, and in 1997 Medhat Rahim will be welcoming us all to Lakehead University in Thunder Bay. Our thanks to each of these individuals for volunteering to host GCEDM/CMESG at their institutions. There is much work involved with the planning for our annual meetings, and we appreciate the willingness of Doug, Yvonne, and Medhat to undertake the task. And who in Western Canada would like to volunteer to host the meeting in 1998?

I am pleased to announce that Vi Maeers (University of Regina) and Yvonne Pothier (Mt. St. Vincent) were co-opted for a one year term on the Executive. They have been most welcome additions to the Executive.

The vitality of the organization was evident in Regina with many new faces and voices enlivening our discussions. This bodes well for the future of CMESG/GCEDM. It is very rewarding to be part of such a vibrant group.

...Sandy

Des membres du GCEDM/CMESG à l'honneur

Plusieurs membres du GCEDM/CMESG se sont récemment vu conférer divers honneurs.

Tasoula Berggren a reçu le SFU Outstanding Alumni Award pour son apport important à SFU par son travail de promotion des mathématiques et des sciences, tout particulièrement auprès des femmes. Tasoula a créé la conférence annuelle Women Do Math destinée aux filles du secondaire. Elle est également présidente de la section canadienne du Mouvement international pour les femmes et l'enseignement des mathématiques.

Brent David a reçu le Prix Tetsuo-Aoki lors de la Conférence Bergamo tenue récemment à Banff. Ce prix, destiné à souligner un texte mettant en évidence le travail du Professeur Aoki, a été remis à Brent pour une présentation faite lors de la Conférence JCT de 1993.

Tom Kieren, ancien président du GCEDM/CMESG, a été nommé Boursier Killam pour 1994-95 en reconnaissance de son apport exceptionnel depuis nombre d'années à la vie universitaire. Ce prix lui est remis à la recommandation de ses pairs et constitue un témoignage éloquent de l'excellence de sa contribution en enseignement et en recherche.

En reconnaissance du travail de Pat Rogers à la direction du Centre for the Support of Teaching, l'Université York a nommé l'une de ses salles la « Pat Rogers Seminar Room ». En acceptant cet honneur, Pat a exigé que les chaises et les tables de cette salle ne soient pas vissées au plancher — une pratique fréquente, semble-t-il, à York!

Peter Taylor, de l'Université Queen's, a déjà reçu au fil des ans plusieurs prix reliés à l'enseignement. Cette année ne fait pas exception, puisque Peter est le récipiendaire de l'un des prix 3M Outstanding Teachers pour 1994 au Canada. Un nombre très restreint de ces prix prestigieux est accordé à chaque année et Peter est certainement un lauréat des plus méritoires.

Félicitations à tous ces collègues de la part de tous les membres du GCEDM/CMESG pour leur contribution remarquable à l'avancement de l'éducation mathématique, tant au plan national qu'international.

CMESG / GCEDM Members Honoured

Several members of GCEDM/CMESG have recently achieved honours in their fields.

Tasoula Berggren received an SFU Outstanding Alumni Award for significant contributions in the area of service to SFU for her work promoting mathematics and science, particularly for women. Tasoula was the founding organizer of Women Do Math, an annual conference for high school women. She is also president of the Canadian Chapter of the International Organization for Women and Mathematics Education.

The Tetsuo Aoki Award was given to Brent Davis at the *Bergamo* conference in Banff recently for a paper he presented at the 1993 JCT conference. The award is given to the scholar whose essay best communicates aspects of Professor Aoki's work.

Tom Kieren, past president of CMESG/GCEDM, was named the Killam Scholar for 1994/1995 in recognition of his excellent contributions over the years in all the traditional areas of university work, scholarship, teaching, and service. The award is based on recommendations from Tom's peers across the country, and this testimony is clear evidence that he is seen as one of our outstanding teacher/researchers.

In recognition of the work she did while directing the Centre for the Support of Teaching, York University has named a classroom the Pat Rogers Seminar Room. In accepting this honour, Pat stipulated that in this room the chairs and tables not be bolted to the floor - a practice apparently common in other parts of York!

Peter Taylor of Queen's University has received teaching awards in the past. This year is no different, because Peter has been named as one of the 3M Outstanding Teachers for 1994 in Canada. The number of such awards given each year is very small and Peter is a most deserving recipient of this prestigious honour.

All members of CMESG/GCEDM extend warmest congratulations to our colleagues for the outstanding job they are doing for mathematics education.

David Wheeler Awarded

Lifetime Membership

David Wheeler was one of the founding members of CMESG/GCEDM, and its first President until he relinquished that post in 1986. Perhaps more than anyone else associated with CMESG, David provided the leadership that gave rise to the form and substance which CMESG still exhibits today. His contributions to the organization over the almost 20 years it has operated are too numerous to list here, but it was in light of these that the Executive felt it fitting that we honour David for being so very instrumental in the creation and continued success of CMESG. To this end, David has been given a lifetime membership in the organization in recognition of the work he has done for and with CMESG/GCEDM.

Of course, David's contributions to mathematics education in Canada have not been limited to his work with CMESG/GCEDM. He has been initimately involved with several of the recent ICME conferences. He was the program chair for ICME-7 held in Quebec City two years ago. He created and has been the only editor of *For the Learning of Mathematics* (FLM), a journal which is now viewed as one of the three best journals in mathematics education in the world.

CMESG/GCEDM is indeed proud to be able to say that David Wheeler is a lifetime member of our organization. Thank you, David, on behalf of us all.

David Wheeler,

membre à vie du GCEDM

David Wheeler est l'un des membres fondateurs du GCEDM/CMESG et il fut son premier Président jusqu'à ce qu'il quitte ce poste, en 1986. Encore davantage peut-être que qui que ce soit d'autre associé au GCEDM, David a su apporter au Groupe le leadership qui lui a permis d'atteindre la maturité dont il fait preuve aujourd'hui. L'apport exceptionnel de David au GCEDM au cours des quelque 20 dernières années, trop vaste pour être décrit ici, a amené le présent Comité exécutif à lui rendre un hommage particulier pour le rôle-clé qu'il a joué dans la création du Groupe et dans les succès qu'il a connus par la suite. Conséquemment, David Wheeler a été nommé membre à vie du GCEDM/CMESG en reconnaissance du travail qu'il a accompli pour et avec le Groupe.

La contribution de David à la cause de l'éducation mathématique ne se limite évidemment pas à son travail avec le GCEDM/CMESG. Il a été associé de près à plusieurs congrès ICME, plus particulièrement au récent congrès ICME-7 tenu à Québec il y a deux ans et dont il a présidé le Comité du programme. Il a créé et demeure le seul éditeur de *For the Learning of Mathematics* (FLM), une revue maintenant considérée comme l'une des trois plus importantes au plan international en didactique des mathématiques.

Le GCEDM/CMESG s'honore à juste titre de pouvoir compter David Wheeler comme membre à vie. Un merci sincère, David, de la part de nous tous!

Avis de convocation

Réunion annuelle de 1995

Le GCEDM tiendra sa prochaine réunion annuelle

**du 26 au 30 mai 1995
à l'Université de Western Ontario
London, Ontario.**

L'organisateur local est Doug Edge.

Voici quels sont les principaux éléments du programme de la rencontre.

Les conférenciers pléniers seront

Michèle Artigue (Université de Paris)

et

Kenneth Millett (Université de la Californie à Santa Barbara)

Il y aura quatre Groupes de travail, dont voici les thèmes et les responsables :

Développer la conversation : essai en vue de traiter ce que nos théories ne traitent pas
-- Brent Davis et Ralph Mason

Facteurs influençant la transition des mathématiques du secondaire à celles du postsecondaire
-- Pat Rogers et Walter Whiteley

Autonomie et autorité dans la conception et la · mise en place de l'activité d'apprentissage
-- Gary Flewelling et Vi Maeers

Preuves et connaissance géométriques sans axiomes
-- David Henderson et David Pimm

Les personnes qui suivent seront en charge de Groupes thématiques :

Ann Anderson, David Bales, Doug Franks, John McLoughlin et Peter Taylor, et Arthur Powell.

Quatre aspects novateurs de la rencontre de cette année sont les suivants :

Des sessions thématiques spéciales consacrées à la présentation des résultats de thèses de doctorat récentes. Les thèses éligibles à être présentées lors d'une rencontre annuelle sont celles dont la soutenance a lieu avant le 15 janvier de la même année. Des présentations seront faites à London par

Judith Barnes
Brent Davis
Gerald Fast
Grace Lynch.

Une soirée de cinéma, avec films et/ou vidéos à caractère pédagogique, organisée conjointement par David Bale et Vi Maeers.

Une table-ronde suivie d'une discussion de groupe sur le thème "Croissance et efficacité de l'enseignement". Ken Millett et Sandy Dawson présenteront leurs vues sur la question et Kathy Heinrich animera la discussion.

Une présentation plénière des programmes de maîtris de SFU (par Rina Zazkis) et de Concordia (par Anna Sierpinska) sera animée par Tom Kieren. Tom situera ces programmes en rapport avec les divers programmes de 2e et 3e cycles que l'on rencontre un peu partout sur le continent.

LES FORMULAIRES DE RENOUVELLEMENT D'ADHÉSION

ET D'INSCRIPTION À LA RENCONTRE ANNUELLE PARAÎTRONT

DANS LE BULLETIN DU PRINTEMPS 1995.

AU PLAISIR DE VOUS REVOIR À LONDON EN MAI PROCHAIN!

Notice of 1995

Annual Meeting

It is time once again for colleagues to begin thinking about attending the annual meeting next May. The dates and location are as follows:

May 26th - May 30th
University of Western Ontario
London, Ontario

Local organizer is Doug Edge.

The plenary speakers are

Michèle Artigue (Université de Paris)

and

Kenneth Millett (UC Santa Barbara)

The four working group leaders and their topics are the following:

Expanding the conversation: trying to talk about what our theories don't talk about
--Brent Davis and Ralph Mason

Factors affecting the transition from high school to university mathematics
--Pat Rogers and Walter Whiteley

Autonomy and authority in the design and conduct of learning activity
--Gary Flewelling and Vi Maeers

Geometric proofs and knowledge without axioms
--David Henderson and David Pimm

Topic groups will be led by these individuals:

Ann Anderson, David Bales, Doug Franks, John McLoughlin and Peter Taylor, and Arthur Powell.

Four new features at the gathering this year will be:

Special Topic sessions for the presentation of the results of recently completed Ph.D. theses. To be presented at a meeting, the theses must have been defended by January 15th of the year of the meeting. Presenters in London will be:

Judith Barnes
Brent Davis
Gerald Fast
Grace Lynch

A night of films and/or videos focussing on pedagogy, this event being arranged by David Bales and Vi Maeers.

A panel presentation and group discussion on the topic of Teaching Growth and Effectiveness. Kathy Heinrich will moderate both the panel presentations by Ken Millett and Sandy Dawson as well as the group discussion which will follow.

A plenary presentation of the distinctive features of the Masters Programs at SFU (by Rina Zazkis) and Concordia (by Anna Sierpinska) will be moderated by Tom Kieren. Tom will describe how these programs fit within the pattern of graduate programs across the continent.

LOOK FOR CMESG MEMBERSHIP FORMS

AND ANNUAL CONFERENCE REGISTRATION MATERIALS

IN THE SPRING 1995 NEWSLETTER

See you in London next May

Conference Reports

Have you been to a conference lately? Are you willing to write a short, personal account of your experiences there? If so, please send them to the editor.

In this issue, we have two such reports, one from Eric Muller who attended the ICOTS 4 conference in Marrakech, and a second from Sandy Dawson who attended the PME conferences, first in Lisbon and then in Baton Rouge.

Morocco for ICOTS 4

Eric Muller

Brock University

> I met a man in Tisi n'Isli,
> no formal education.
> Keen problem formulation
> and so in math solution.
> Where from this rich tradition?

This brief report on The Fourth International Conference on Teaching Statistics held this past July in Marrakech gives me the opportunity to tell you about my first hand experience of a rich mathematics oral tradition.

In 1979 Professor Ha Oudadess, of Rabat, undertook a study of the mathematics oral tradition of Moroccans living in the High Atlas mountains. He interviewed a number of individuals who had no formal education and yet possessed an extensive repertoire of interesting mathematical problems. In his unpublished report he lists no less than 30 different problems. Should we choose to classify the problems by solution techniques, we find partitioning, linear systems, sequences, geometry, games, etc..

But first we go to Marrakech for ICOTS 4.

With close to 400 participants, this conference was on a much smaller scale than ICME 7. Except for three hours set aside for Working Groups, the program for the six day meeting was composed of invited and contributed papers in lecture type facilities. There were nine different Working Groups. I went to the one entitled "The Statistics Curriculum: Towards the Year 2000" - the English speaking group. (There were parallel groups in French, Spanish and Arabic). The other working groups dealt with software for the various language groups. In three hours a large group cannot come to any earth shaking conclusions. If we, in Ontario, can implement the recommendations contained in the Focus on Renewal, our statitistics

education will be in line with other English speaking countries. Some of the European countries are calling for a more formal and earlier treatment of probability. At the secondary school and undergraduate university levels there was much discussion (but few concrete suggestions) as to how to bridge the gap between the 'mathematical probability and statistics' approach and the computer driven 'data analysis' approach which, in North America, has the majority of student enrolments. It is unfortunate that the organizers did not provide more time for similar interactions on other themes.

What about the other sessions? Having read the two books of abstracts, I moved from one session to the other, catching those speakers which had something new for me - mainly speakers with innovative ideas for large enrolment first year undergraduate classes in statistics or speakers addressing teacher education. I heard about some interesting research projects, some useful projects aimed at developing materials, and some ideas about projects for my first year courses. It was possible to run around from one session to the other because all sessions were held in one building, the impressive new "Palais des Congres" air-conditioned and possessing all the required conference facilities. I was disappointed that so few of the English speaking presenters took care to speak slowly and clearly for the many participants who struggled with English. The other disappointment was the small number of participants from the African continent.

The hosts and local organizers did a marvellous job. Marrakech is situated in the hot and fairly dry south west plains of Morocco, at the foot of the Atlas mountains. With a daily temperature above 40 C, the city sleeps between noon and 3 pm. It comes alive after 6 pm. and one feels safe in the parks and more popular areas as familes with children stay out late at

night. In the Medina, the old walled city, the souk or market keeps active during the early evening. As a tourist you are continuously approached to buy local handicrafts of leather, copper, pottery or wood. Later in the evening Place Jemaa El Fna, the large central square of the medina, is vibrant with colour, noise and smells as orange sellers, barbecues, story tellers, jugglers, snake charmers and others ply their trade and try to attract a crowd. A real hive of activity into the early hours of the morning. Marrakech, like other major Moroccan cities, has a rich history, having been founded in 1062.

The Atlas mountains are very special and we could not resist visiting them on three different occassions. High and majestic, mostly dry, they shelter, along the river valleys, small villages of square red mud huts. There families eek out a meager existence keeping goats and planting grains and vegetables on terraces which have been worked for centuries. One cannot imagine how a mathematics oral tradition was established and has survived in such an isolated environment. My experience of this tradition came from the small isolated villages of Aghbala and Tizi n'Isli. Two villages located on one of the plateaus of the High Atlas. There we stayed with Ha's brother who is just establishing his own medical practice. It was in Tizi n'Isli, on the terrace of the only cafe in town, over the inevitable cup of sweet mint tea, that we talked to Qlla Ikhlef. He speaks only Berber, which Ha translates for me into French. He was born in 1962, in a small village higher up in the mountains, 150 kms. from where we sit, but accessible only by mule and jeep. There he spent his first twenty years as a shepherd. Since then he has been to various places working as a manual labourer. He has no formal education but recalls that at the age of fourteen he was allowed to sit with some elders who would spend time inventing and solving problems. Can he recall any of the problems? "Oh yes."

"Three people own 30 she-goats. In the spring 10 of them bear 3 kids, 10 bear 2 kids and 10 bear 1 kid. The three owners decide to split the herd equally so that they have the same number of goats and kids. No kid is to be separated from its mother. How can we do this?"

This same problem is found in Ha's collection which he gathered from another village in a distant part of the Atlas. We try to explore Qlla's thinking. Why 30 goats? "Because it is not too big and not too small" he replies. Do you know the solution? After a few scratches on a piece of paper he provides the division. So you can write. "Yes, I taught myself to read and write a few things, I can write my name". Is he really solving the problem, or has he remembered the solution? We ask

him to solve the problem with six goats (2 each with three, two and one kids). Takes a while but he finds a solution. With nine goats he has no difficulty. We suggest the problem with twelve goats. This he finds difficult. Many more scratches on the paper - a lot of crossing out. He is tired and we move on. Qlla recalls a social 'problem competition' between men from his village and others from a different village. This would be held at the time of the souk (the travelling market which, in small villages, is held once a week). On warm nights, before the souk, men would gather in an open tent, drink sweet mint tea, talk and sometime would pose problems for members from the other village to answer. We wonder where this tradition comes from. What in this culture makes mathematics problem solving a social activity? We know it is quite old because Ha remembers that as a youngster, in the Atlas, he was stopped and challenged by elderly men from the village to solve problems. It is also quite extensively spread throughout the Moroccan Atlas. The original work done by Ha comes from a very different part of the Atlas. Similar problems can be found in the literature: were they formulated afresh here, or were they brought here by other more nomadic people? Our foursome on the cafe terrace attracts attention, the word has spread that these strangers, in shorts, are interested in problems. A group of men come forward, one of them wants to share a problem. It is a version of the river-crossing involving a boat, a wolf, a goat and a cabbage, re-worded for the local situation. No one else in the crowd has a problem to share. So ends our marvellous experience. To complete your experience of this mathematics oral tradition here are a couple more problems gathered by Ha. You'll have to imagine yourself sitting on a terrace in a little village in North Africa, sipping sweet mint tea, enjoying the sunshine, and listening to someone posing a mathematical problem in Berber. (These problems seem so dry when they are written down on paper!):

1) A person wishes to purchase 100 birds using exactly 20 rials. For one rial the person can get either one hawk, or two pigeons or five sparrows. The person must buy at least one bird of each type. How many of each type can the person buy?

2) Three people go to the barber. To pay each person opens a drawer and places a payment equal to what is found in it and then closes the drawer. After the customers have left the barber finds 10 rials in the drawer. He wants to know how much each person paid.

PME Conferences -- 1994

Sandy Dawson

Simon Fraser University

PME is the Psychology of Mathematics Education group, and was founded in 1976 as an affiliate of the International Commission on Mathematical Instruction (ICMI). Carolyn Kieran of UQAM is currently in the final year of a three year term as president of PME. PME met this past July-August in Lisbon, Portugal. PME's North American affiliate, PME-NA, met in early November in Baton Rouge, Louisiana. Canadians, and in particular active members of CMESG, played prominent roles at both gatherings.

In Lisbon, two of the four plenary addresses were given by Canadians. Carolyn Kieran's title was *A functional approach to the introduction of algebra: some pros and cons.* John Mason, who holds the chair in mathematics education at the Open University in the UK, but who is a Canadian at heart and by birth, addressed the topic of *Researching from the inside in mathematics education: Locating an I-you relationship.* Though it has been some years since John attended CMESG, he reported being hopeful of attending again soon. Claude Janvier co-led a working group, and research reports were given by Olive Chapman, Linda Gattuso, Joel Hillel, and Pat Lytle.

In Baton Rouge, Tom Kieren led an Invited Discussion Group on the topic of *Reflections and interactions on rational number thinking, learning, and teaching.*

Vicki Zacks co-led both a Working Group and presented a research report in Lisbon. Vicki is an executive member of the PMENA group. Rina Zazkis and Sen Campbell presented research reports at both meetings. Sandy Dawson co-led Discussion Groups at both meetings, and co-led a Working Group in Lisbon.

Both conferences were characterized by a sense of change. Research methodologies were critically examined. Questions as to the validity and reliability of qualitative methods were explored and debated. Proposals for models of inservice education for mathematics teachers from diverse locations such as South Africa, Israel, Lebanon, Australia, Brazil were examined in terms of whether and/or in what ways these models might be appropriate for other parts of the world.

An important function of these conferences is the contacts with colleagues from around the world which are established and nurtured. In that regard, both events were highly successful as the organizers did superb jobs by providing many opportunities for participants to interact on a personal and professional basis. Excursions and official dinners were excellent means of facilitating such interchanges.

In Lisbon, participants were treated to both dinners and excursions, the latter to various parts of Lisbon and surrounding areas. Sintra and Cascais, because of their beauty, tranquility, and long history, were coveted areas for exploration outside of Lisbon. One of the conference dinners held at a former convent was an elegantly informal affair highlighted by the music of Portugal sung by a group from the University of Coimbra, the oldest university in Portugal, dating back to the twelfth century.

At Baton Rouge, participants were transported to the biyou for an authentic Cajun dinner and dance party where we heard the story of the Acadians, danced to Acadian music, and ate roast turkey and fried alligator. Needless to say, fairly large quantities of spirits were also consumed along with this feast.

Did You Know?

That Bernard Hodgson is a newly elected member of Working Group 3.1 of the International Federation for Information Processing (IFIP); this is a subgroup of IFIP Technical Committee 3 on education, and it is devoted to informatics education at the secondary education level.

That Tom O'Shea is using his sabbatical to return to teach high school--practicing what he preaches--in Burnaby. Tom teaches 4 classes every other day!

That Susan Pirie is leaving Oxford and coming to UBC. Welcome to Canada, Susan.

Canadian Forum for Education in Mathematics

Forum canadien sur l'enseignement des mathématiques

The Canadian Forum for Education in Mathematics is seen as an opportunity to bring together those of us who work in mathematics as educators, as researchers, and as users. By learning what others are doing, by discussing the recommendations already made, and by talking with one another, it is hoped that all participants will leave with strategies for bringing about changes to ensure that all Canadians are numerate, that as teachers we receive excellent and appropriate education with continual opportunities for further learning, and that government, industry, and the educational community share the responsibility for enhancing the mathematical expertise of all Canadians.

The planning committee (Sandy Dawson is the CMESG/GCEDM member) met in late September to finalize plans. The Forum will be held May 5 - 7, 1995 at the Château Frontenac in Québec City. To ensure a close working environment, the plans are to have 150 participants representing the many groups that comprise mathematics and mathematics education in Canada. The Forum will be structured so that all participants will be free to express themselves in either French or English. A discussion paper based on reports written by many agencies in Canada concerning the future of mathematics will be prepared and sent to all participants prior to the Forum. A document describing many of the initiatives taking place in mathematics education in Canada will be made available at the Forum.

Plenary speakers at the Forum will be Gary Donahee (Northern Telecom), Bernard Hodgson (Université Laval), Maria Klawe (UBC), and Janice Moyer (Information Technology Association of Canada).

The Forum will be organized into four working groups: Expectations, Curricula (K-graduate school), Getting Ready to Teach, and Math at Work. These are all to be interpreted as broadly as possible and the hope is that within each group participants will focus on the issues of particular concern to them.

This will be a working Forum and it is expected that participants will come prepared to take back to their community the initiative and actions that hopefully will arise within the Forum.

Le Forum canadien sur l'enseignement des mathématiques a pour objectif de rapprocher les divers intervenants en mathématiques, qu'ils soient enseignants, chercheurs ou utilisateurs. Les organisateurs espèrent qu'en apprenant ce que font les autres, en discutant les diverses recommandations mises de l'avant et en échangeant avec les autres participants, tous repartiront du Forum avec des stratégies permettant de faire changer les choses. Ce colloque vise donc à définir des moyens d'action afin que tous les Canadiens développent les connaissances numériques essentielles ; afin que les enseignants aient accès à une formation adéquate et à des programmes de perfectionnement ; et afin que l'État, les employeurs et le milieu de l'enseignement oeuvrent de concert à améliorer les compétences mathématiques de tous les Canadiens.

Les membres du comité organisateur (Sandy Dawson y représente le GCEDM/CMESG) se sont rencontrés à Ottawa en septembre pour finaliser les derniers détails. Le Forum aura lieu à Québec, au Château Frontenac, du 5 au 7 mai 1995. Pour favoriser un bon climat de travail, la participation est limitée à 150 personnes, qui représenteront les nombreux groupes intéressés aux mathématiques et à leur enseignement au Canada. Les participants pourront s'exprimer en anglais ou en français. Un document de travail, synthèse des rapports de nombreux organismes canadiens portant sur l'avenir des mathématiques, sera envoyé à tous les participants avant la tenue du Forum. Un document décrivant des initiatives pédagogiques ayant vu le jour au pays sera distribué lors du Forum.

Les conférences plénières lors du Forum seront données par Gary Donahee (Northern Telecom), Bernard Hodgson (Université Laval), Maria Klawe (UBC), et Janice Moyer (Information Technology Association of Canada).

Quatre ateliers sont au programme : l'avenir des mathématiques ; les programmes (de la maternelle aux études supérieures) ; se préparer à l'enseignement ; et les mathématiques au travail. Ces thèmes sont à interpréter de la façon la plus générale possible, chaque atelier devant permettre aux participants de se pencher sur les questions qui les préoccupent le plus. Le Forum se veut une rencontre axée sur l'action ; de retour dans leur milieu, les participants doivent être prêts à faire connaître les initiatives et les projets qui en seront ressortis.

Le Babillard électronique du GCEDM

CMESG Email Bulletin Board

The Executive has established an electronic bulletin board to facilitate communication among its members. Members who wish to have their names added to this board must email

cmesg-request@spartan.ac.brocku.ca

indicating that they wish their email address to be included in the mailing list. Their address will be entered by the Secretary/Treasurer. Members will then be able to send messages and will receive a copy of all messages sent to the board, at the address

cmesg@spartan.ac.brocku.ca

The Executive of CMESG/GCEDM cannot screen messages. From time to time it will communicate information which it receives.

The Executive plans to support this Bulletin Board for a trial period of one year. At the 1995 Annual General Meeting members can decide whether this service should be continued.

Le Comité exécutif a récemment mis sur pied un service de Babillard électronique afin de faciliter la communication entre ses membres. Pour s'abonner au Babillard, il suffit de faire parvenir un message à cet effet à l'adresse suivante :

cmesg-request@spartan.ac.brocku.ca

Le Secrétaire-trésorier se chargera d'ajouter à la liste d'envoi du Babillard l'adresse des membres en ayant ainsi fait la demande. Ces membres seront alors en mesure d'afficher eux-mêmes leurs messages en utilisant l'adresse

cmesg@spartan.ac.brocku.ca

Ils recevront de plus tous les messages inscrits au Babillard.

L'Exécutif n'exercera aucun contrôle sur le contenu des messages. Il publiera de temps à autre les informations qu'il aura reçues directement.

L'Exécutif se propose de faire l'essai du Babillard pour une période d'une année. Lors de l'Assemblée générale de 1995, les membres pourront se prononcer sur l'opportunité de maintenir ce service.

Professional Meetings in 1995

73rd National Council of Teachers of Mathematics [**NCTM**], Research Pre-Session, April 4-5, Boston, MA. The conference itself runs from April 6-9th.

American Educational Research Association [**AERA**], April 18-22nd, San Francisco, CA.

Forum canadien sur l'enseignement des mathématiques, du 5 au 7 mai; Canadian Forum for Education in Mathematics, May 5-7, Québec.

GCEDM, du 26 au 30 mai à l'Université de Western Ontario / **CMESG**, May 26-May 30, University of Western Ontario, London.

Canadian Mathematical Society [**CMS**] / Société mathématique du Canada [**SMC**], du 4 au 8 juin, Toronto.

Société canadienne pour l'étude de l'éducation [**SCEE**], du 2 au 5 juin, Canadian Society for the Study of Education [**CSSE**], June 2-5, Université du Québec à Montréal, Montréal.

Psychology of Mathematics Education [**PME**], July 22-July 27, Recife, Brazil. The first announcement for this conference is available from Sandy Dawson. Email him if you wish a copy.

Sixth IFIP World Conference on Computers in Education [**WCCE95**], July 23-28, Birmingham, UK.

Appel aux mises en candidature

Les mandats biennaux de Sandy Dawson et d'Éric Muller au sein du Comité exécutif prendront fin en 1995. Sandy est membre de l'Exécutif depuis quatre ans, dont deux à titre de Président, tandis qu'Éric a rempli la fonction de Secrétaire-trésorier au cours des deux dernières années.

Les mandats de Bernard Hodgson et de Pat Rogers se termineront en 1996.

Le Comité exécutif a donc mis sur pied un Comité de mise en candidature chargé de recevoir vos suggestions ; il est composé de Lars Jansson et de Pat Rogers. Prière de soumettre vos **propositions de candidatures**, par courrier électronique ou régulier, à l'une des adresses ci-contre **avant le 1er février 1995**.

Lars Jansson
Faculty of Education
University of Manitoba
Winnipeg, MN R3T 2N2
Courrier électronique: jansson@cc.umanitoba.ca

Pat Rogers
Faculty of Education
York University
4700 Keele Street
North York, ON M3J 1P3
Courrier électronique: progers@vm2.yorku.ca

Call for Nominations

The two year terms of Sandy Dawson and Eric Muller on the Executive are complete in 1995. Sandy has been on the Executive a total of four years, two as President, whilst Eric has been Secretary/Treasurer for the past two years.

Continuing members of the Executive are Bernard Hodgson and Pat Rogers.

The Executive has therefore struck a Nominating Committee composed of Lars Jansson and Pat Rogers, who seek your suggestions of candidates for the Executive **before February 1st, 1995**. Please contact either Lars or Pat at their respective addresses (email or snailmail) to submit your nominations.

Lars Jansson
Faculty of Education
University of Manitoba
Winnipeg, MN R3T 2N2
Email: jansson@cc.umanitoba.ca

Pat Rogers
Faculty of Education
York University
4700 Keele Street
North York, ON M3J 1P3
Email: progers@vm2.yorku.ca

Newsletter Editor / Editeur du Bulletin

Please submit contributions to/Veuillez envoyer vos contributions à:

Sandy Dawson
Bulletin du GCEDM / CMESG Newsletter
Faculty of Education
Simon Fraser University
Vancouver, BC
CANADA V5A 1S6
dawson@sfu.ca

L'EXÉCUTIF DU GCEDM
CMESG EXECUTIVE
1994 - 1995

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.

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.

A. J. (Sandy) Dawson, President
        Faculty of Education
        Simon Fraser University
        Vancouver, BC   V5A 1S6
        dawson@sfu.ca

Eric Muller, Secretary-Treasurer
        Dept of Mathematics
        Brock University
        St. Catharines, ON   L2S 3A1
        emuller@spartan.ac.brocku.ca

Bernard Hodgson
        Dép. de mathématiques et de statistique
        Université Laval
        Québec, QC   G1K 7P4
        bhodgson@mat.ulaval.ca

Yvonne Pothier
        Education Department
        Mount Saint Vincent University
        166 Bedford Highway
        Halifax, NS   B3M 2J6
        ypothier@linden.msvu.ca

Vi Maeers
        Faculty of Education
        University of Regina
        3737 Wascana Parkway,
        Regina, SK   S4S 0A2
        maeers@meena.cc.uregina.ca

Pat Rogers
        Faculty of Education
        York University
        4700 Keele Street
        North York, ON   M3J 1P3
        progers@vm2.yorku.ca