

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:*

- 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.

*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 l'éducation mathématique au Canada
- 4) faire connaître les résultats de ses travaux.

**To the Memory of  
David Wheeler**

**À la Mémoire de  
David Wheeler**

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## **PRESIDENT'S MESSAGE DE LA PRÉSIDENTE**

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Welcome to our Fall 2000 newsletter. As we decided at the annual general meeting, you will receive a copy of the newsletter by mail. You will also continue to access it through our website.

In a few weeks the year 2000 will be over. It was welcomed as the millennium year and as the International Mathematics Year. But the members of the CMESG will remember this year most of all for the death of David Wheeler.

We would like to dedicate this newsletter to the memory of David, one of the founders of our organization and the creator of our journal, For the Learning of Mathematics. We have included in this newsletter some personal memories of David by Sandy Dawson, and a tribute to David published in the 1997 ICMI Bulletin.

A special session to celebrate David's life and work is being organized for our 2001 Annual Meeting in Edmonton. We hope you can all join us there.



Bienvenue à notre bulletin de l'automne 2000. Tel que nous en avons convenu lors de notre dernière rencontre, vous recevrez ce bulletin par la poste et y aurez aussi accès sur notre site internet.

L'an 2000 se termine dans quelques semaines. Cette année aura été présentée à la fois comme première année du nouveau millénaire et comme Année mondiale des mathématiques. Mais les membres du GCEDM se souviendront davantage de cette année comme celle du décès de David Wheeler.

Nous désirons dédier ce bulletin à la mémoire de David Wheeler, l'un des fondateurs de notre groupe et le père de For the Learning of Mathematics. Vous trouverez dans les pages qui suivent un témoignage personnel de Sandy Dawson sur David ainsi que des témoignages publiés en 1997 dans le bulletin de la CIEM.

Je profite de l'occasion pour vous signaler qu'une séance spéciale pour célébrer la vie et l'oeuvre de David Wheeler est organisée pour notre rencontre de 2001 à Edmonton. Nous espérons que vous pourrez toutes et tous y être.



## DAVID WHEELER REMEMBERED

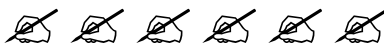
This issue is dedicated to the memory of David Wheeler. David, well-known and well-respected throughout the mathematics education community, died October 7, 2000. His impact on mathematics education has been felt for more than half a century, and we here in Canada have been particularly fortunate to have had him as a colleague for many years. As a tribute to his memory, we present a number of articles that speak to his many accomplishments. The first five of these, by Dick Tahta, Marty Hoffman, Joel Hillel and Bill Higginson, Claude Gaulin and Eric Muller, and David Pimm, were originally published in ICMI Bulletin Number 42, 1997 as “A Tribute to David Wheeler” following his stepping down as the Canadian national representative to ICMI. We wish to thank ICMI for permission to reprint these articles. In addition, Sandy Dawson offers a very personal perspective on his relationship with David as both colleague and good friend.

## EN SOUVENIR DE DAVID WHEELER

Ce numéro du bulletin est consacré à la mémoire de David Wheeler. David, bien connu et éminemment respecté au sein de la communauté d'enseignement des mathématiques, nous a quittés le 7 octobre 2000. Son impact sur l'enseignement des mathématiques s'est fait sentir pendant plus d'un demi-siècle et nous avons été chanceux, au Canada, de l'avoir comme collègue pendant plusieurs années. Nous désirons rendre hommage à David en publiant des articles qui soulignent, chacun à leur façon, à la fois l'homme et son oeuvre.

Les cinq premiers articles, écrits respectivement par David Tahta, Marty Hoffman, Joel Hillel et Bill Higginson, Claude Gaulin et Eric Muller, et David Pimm, sont tirés du bulletin no 42 de la CIEM (1997). Ces articles y étaient publiés dans le cadre d'un “Hommage à David Wheeler” suite à la fin de sa participation à la CIEM en tant que représentant du Canada. Nous remercions la CIEM de nous avoir permis de reproduire ces articles ici.

Dans le sixième et dernier article, Sandy Dawson nous offre un témoignage personnel sur David Wheeler, à la fois l'un de ses collègues et l'un de ses bons amis.



### **Some notes on David Wheeler's years as a mathematics educator in Britain** (reprinted with permission from the ICMI Bulletin, No. 42, June 1997)

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I first met David Wheeler in the late fifties at a local branch meeting of ATAM (the Association for Teaching Aids in Mathematics, later to become ATM, the Association of Teachers of Mathematics). When the meeting broke up into small discussion groups I found myself in one chaired by this amazingly impressive man with a generous laugh, a warm and inviting manner yet with a sharp eye for fraud or insincerity. Not for the last time, I found myself simultaneously encouraged and challenged by his presence in the group. Such personal influence has been the experience of many teachers who were fortunate enough to work with him in some way during his professional life in England.

David was already a key figure in the Association which had been founded by Caleb Gattegno in 1952. He became an increasingly important influence in mathematics education in Britain over the next two decades. He was tirelessly active in a number of fields: after many years teaching mathematics in London schools, he moved into post-graduate teacher education at Leicester University, where he soon became involved in the setting up of

a study group with colleagues from other universities (some readers will know the sort of influence he had in this study group which was not unlike the one he initiated many years later in Canada).

He continued to be involved in the work of ATM: he wrote regularly for the journal of the association, "Mathematics teaching", contributed to various books and edited a number of these (notably "Notes on mathematics for children", Cambridge University Press, 1977). He served on the committee of the association for many years, including a particularly fertile spell as Secretary, and he was a regular seminar leader at conferences. He became an outstanding editor of the journal whose magisterial editorials still get re-printed from time to time; his own wide interests and contacts ensured that the journal moved from being something more like a local house magazine into an authoritative and internationally respected journal.

Apart from all that, and apart from his normal university teaching and administrative responsibilities, he was often running courses for teachers outside his immediate local area, serving on national committees, attending international conferences, giving radio talks on the teaching of mathematics, writing articles in other educational journals, commissioning and editing a series of textbooks, preparing courses for the Open University - this latter yielding a remarkable book, "R is for Real" (Open University Press, 1974) which deserves to be more widely known.

Lists of achievements like the above are formal pieties which do not convey the very special nature of the legacy that David left to his many friends and colleagues in Britain. Perhaps this can be best captured in some of his own words. For many years I would ask groups of prospective teachers to read his article on the Role of the Teacher ("Mathematics Teaching", no. 50, 1970, p23) . Discussion of this article was always fruitful. For students who were on the edge of their first experience of teaching, it was exhilarating and very helpful to read his pungent reversal of the usual traditional advice that a teacher faced with a new class needs first to establish relationship. (A typically shrewd aside noted that "teacher-trainers have one sort of language for this: experienced teachers another!") For, "if the teacher takes the initiative in establishing relationships before there are any tasks, the children will know that the tasks do not have first priority; they are being thoroughly logical in subsequently working on the relationships instead of the tasks."

The article opened with the following paragraph: "If we know that ineffective teaching of mathematics is not due to the difficulty of the subject matter, and if we know that changing the classroom environment .... does not contain within itself the possibility of acting directly on the awarenesses of children, and if we then do not re-examine in the most fundamental way how as teachers we should act, we are guilty of a total failure of seriousness, for we have stopped our progress towards a better education for children just short of the point at which we can make a contribution to it."

David himself never stopped short of making a contribution, one that was serious, challenging but sympathetic, and always tinged with humour. In the words of the title of one of his ATM conference lectures, he helped "humanise mathematical education". During the sixties, he had been a central figure in the ATM research and development group. He had not himself been a student of Gattegno's like many other members of the group, but he was certainly the one who had the most understanding in theory and practice of what Gattegno was eventually to call the science of education.

It is perhaps typical of his own research in mathematics education that at the height of a professional career in England he chose to leave a tenured post and familiar ways to work with new challenges in New York.

## Reminiscences of David Wheeler in New York

(reprinted with permission from the ICMI Bulletin, No. 42, June 1997)

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I don't have a clear recollection of my first meeting with David Wheeler, although it was certainly in the early 1970's at Caleb Gattegno's Educational Solutions. I started working for Educational Solutions in various public schools in 1970 and Wheeler's name was often mentioned (somewhat reverently) around the office. ATM (Association of Teachers of Mathematics), MT (Mathematics Teaching), David's connection to Gattegno and David, himself, were unknown to me. These were all to change in the next couple of years.

I didn't see much of David when he first arrived. He mostly worked in the downtown 5th Avenue office of Education Solutions and I in the uptown 5th district of the New York City Public Schools. I don't know how we came to know each other better, but it was undoubtedly through some combination of seminars at Educational Solutions, the many lunches at Brew Burger, and concerts at Carnegie Hall.

I appreciated David's wit and humor from our first meetings, but a true respect for his mathematical insights came a short bit later. The occurrence was a weekend workshop that he conducted using the black and white Nicolet geometry films. He guided the participants through a careful study of several of the films, revealing insight after insight. What a tour de force! And I still have my notes.

There were occasions in New York when I was leading a workshop that he was able, at a critical moment, to focus an uncertain discussion. Then, and in many working groups of CMESG/GCEDM (Canadian Mathematics Education Study Group / Groupe canadien d'étude en didactique des mathématiques) that we participated in since, I have come to value his uncanny ability to contribute when he is not the leader, not by adding more layers of detail to an existing viewpoint, but by illuminating it through the suggestion of complementary and countervailing viewpoints.

David and I used to trade what seemed to us to be interesting math problems. There must have been some discussion about their usefulness in school settings, but the memory of the joy of solving them is more prominent. After leaving New York he continued to send me problems and I have maintained them in a file which I still utilize. Recently, a discussion among members of my department on an equivalent of Wythoff's Nim sent me back to that file. There it was, clearly presented with follow-up suggestions from twenty years ago that the current discussion had yet to consider.

There was one question that I used to frequently ask David to which he did not have (or chose not to have) an unequivocal answer: "What do you do in that office?" It was asked partly out of curiosity and partly from the knowledge that I would have found it very difficult to work in such close physical proximity to Gattegno.

In retrospect I think a partial answer to the question comes from viewing his short stay in New York as a bridge spanning his significant accomplishments with ATM and MT in the UK and with FLM (For the Learning of Mathematics) and CMESG/GCEDM in Canada. The office allowed him to cross that bridge at an ideal pace; contemplating the past, learning in the present and preparing for the future. I feel fortunate to have accompanied him for even a small part of that crossing.

## Some aspects of David Wheeler's career in Canada

(reprinted with permission from the ICMI Bulletin, No. 42, June 1997)

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David Wheeler came to Canada in 1976 as professor of mathematics at Concordia University in Montreal. From that date until the time of his retirement and relocation to Vancouver a decade and a half later, he played a major role in a number of international organizations and activities. In the Canadian context he was instrumental in the formation and growth of two significant initiatives: the development of Concordia as a centre for teaching and research in mathematics education, and the creation of the Canadian Mathematics Education Study Group / Groupe canadien d'étude en didactique des mathématiques (CMESG/GCEDM).

When David Wheeler came to Concordia, the Mathematics Department's main commitment to education was through the Master's in the Teaching of Mathematics programme (M.T.M.). At the time, the M.T.M. consisted essentially of content courses in mathematics and did not provide a broader based vision of mathematics education. Wheeler brought a wider perspective to the programme by weaving in the pedagogical, psychological, historical and philosophical connection to mathematics education. He introduced faculty and students alike to Piaget's work in developmental psychology, to Polya's classical writing on heuristics and problem solving, to Lakatos' perceptive insights of the process of mathematization and proof. He brought the international mathematics education community to Concordia by attracting visiting scholars and lecturers. By co-directing the first FCAR (Fonds pour la formation de chercheurs et l'aide à la recherche du Québec) three year research project on problem-solving, he helped launch the research aspect of the mathematics education group. Within five very short years, the group has achieved an international reputation, with a very high research profile and an active role in many national and international organizations.

CMESG/GCEDM in the 1990's has become an active and influential group involving a high percentage of the population of Canadian mathematics educators and mathematicians with a strong interest in education, as well as a few regular, 'offshore', participants. In its early days, however, it was almost exclusively Wheeler's brainchild. In the evolution of CMESG/GCEDM we have a clear picture of Wheeler at work -- imaginative, sensitive, ambitious, disciplined, diligent and determined; it is a story worth recounting in some detail.

Shortly after his arrival in Montreal, David composed a letter in which he noted his perception of the lack of any national forum for the discussion of ideas about the teaching and learning of mathematics. He went on to ask a large number of mathematicians and mathematics educators in Canada whether this perception was correct, and if it was, whether there was merit in trying to create such a forum. The response to this request was largely negative. Of the individuals who responded, the majority either did not see such a venture as particularly important, or felt that their needs were already being met adequately by the National Council of Teachers of Mathematics (USA) and its allied interest groups. In the minority group of 'positive' respondents there was a small 'cluster point' in Kingston, Ontario where, independently, two individuals had expressed some interest in Wheeler's suggestion. One was John Coleman, the long-time head of the Department of Mathematics at Queen's University, and the second was William Higginson, recently appointed as an assistant professor in the Faculty of Education at the same university. [It would later be suggested, neither unkindly nor totally inaccurately, that CMESG/GCEDM

was a function of Wheeler's imagination, Coleman's influence and Higginson's energy.] With this rather thin potential base for a national organization Wheeler moved quickly and decisively taking advantage of the fact that Coleman had recently completed a major study of the "Mathematical Sciences in Canada" (Science Council of Canada, 1976) and was able to support an invitational meeting at Queen's in the summer of 1977. The format established for that gathering [invited speakers -- in this case, John Coleman, Tom Kieren of the University of Alberta, and Claude Gaulin of Université Laval -- and working groups] has been one of the 'constants' of the organization which evolved out of that meeting. It was clear to many by the end of that first Kingston meeting [which was to be followed by three more at that location in the next three years, by which time a formally constituted organization -- whose elected president for the first ten years was David Wheeler -- had come into being] that the 'new boy' on the Canadian mathematics education block had much to offer to this previously very loosely organized community. Take, for instance, these observations from his contribution, "Reflections after the Conference" from the Conference Proceedings (pp. 56 - 61 in "Educating Teachers of Mathematics: The Universities' Responsibility", A. J. Coleman, W. C. Higginson and D. H. Wheeler, eds.; Ottawa: Science Council of Canada, 1978):

"...it would be premature to say that mathematics education is on the verge of a breakthrough comparable to that experienced by mathematics... Yet the real message of the implied parallelism is that there 'may' be a current flowing that could liberate education from its ideological constraints... It is always a possibility that those who enter with curiosity and sensitivity and persistence into a dialogue with the facts may, like Kepler or Faraday or Cantor, find themselves carried into a new world that others will inherit."

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### **David Wheeler's international legacy**

(reprinted with permission from the ICMI Bulletin, No. 42, June 1997)

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David Wheeler's fifty years in mathematics education have left indelible marks on the international scene.

Evidence of these can be found in his exceptional contribution as writer and as editor of the internationally renowned British journal "Mathematics Teaching" as well as in his remarkable work as founder, editor, fundraiser, administrator, and much more, of "For the Learning of Mathematics" (FLM), a journal with a well-established world-wide reputation. These are discussed by others in this Bulletin.

Other evidence is David's involvement in activities of the International Commission on Mathematical Instruction (ICMI) and International Congresses on Mathematical Education (ICMEs). Concerning ICMI, he was the first and the only Canadian official representative until his retirement from this post in 1996, and he actively participated in a number of ICMI study seminars, always providing deep insights and thoughtful reflections. On the other hand, David Wheeler has been a member of the International Programme Committees for ICME-5 (1984), ICME-6 (1988) and ICME-7 (1992). For the latter, he chaired the IPC and played other very important roles, being in the forefront organizing and developing the successful bid to host the congress in Quebec City, and sitting on the Executive Committee and the Canadian National Committee. He contributed much to the success of ICME-7 and was an important member of the Editorial Panel for the two volumes of its Proceedings. As Chair of

the IPC, he insisted that members reflect and question all parts of the programme: What was the role of Working Groups, Topic Groups, etc.? Was there a proper balance between these and the more traditional lecture presentations? How could the committee facilitate real participation by those who already had and those who were new to the ICME experience? etc. Undoubtedly David Wheeler has left his mark on the evolving spirit and organization of the ICMEs. Moreover, through many invited presentations he has made during ICMEs, PME and HPM conferences, ICMI study seminars and other events around the globe, he has influenced mathematics educators from the elementary to the tertiary levels.

It is clear that David has been consistently recognised internationally not only for his thought provoking and rich articles and presentations, but perhaps even more for his brilliant, original and spontaneous interventions during meetings, often raising questions or putting in question what others assumed of no consequence or accepted without question. Always aspiring to improve knowledge and understanding, he eagerly and patiently encouraged the participation and development of others.

We take the liberty to personalize the aims which he had originally spelt out for FLM: David Wheeler... "aims to stimulate reflection on and study of the practices and theories of mathematics education at all levels; to generate productive discussion; to encourage enquiry and research; to promote criticism and evaluation of ideas and procedures current in the field." In his fifty years of activities in mathematics education, David has certainly achieved that and we are most grateful for it.

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## **David Wheeler and the FLM adventure**

(reprinted with permission from the ICMI Bulletin, No. 42, June 1997)

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In July 1980, the first issue of "For the Learning of Mathematics" (FLM) appeared -- conceived, edited and financed (with some support from Concordia University in Montreal) by David Wheeler. By June 1997, the fiftieth issue will have appeared, David's final one as editor of his journal. Although the journal's synchronic appearance was on occasion aleatory, its diachronic presence is now an established regularity in the academic world (reflecting the most important factor when calling the June issue the June issue).

One of the many lasting impressions David has made in this realm has been produced through the pages of this journal, despite his almost never appearing as a named presence in the pages themselves. (He had a short editorial on page 1 together with a few briefly-worded questions and comments in his interview/discussion with Caleb Gattegno in issue number 1, and a second editorial to end things off in issue number 50. And that's it.) The incoming editor might be permitted a gleam in his eye about the pieces David might finally be inveigled into writing.

There are a number of orienting influences. One is that of the Association of Teachers of Mathematics (ATM), of whose journal David Wheeler was an early editor. In FLM issue 1, ATM is "represented" by Tahta, Trivett and Gattegno. The very name of the journal is deliberately resonant of the collections of Caleb Gattegno's writings, entitled "For the Teaching of Mathematics".



The title also signals the journal editor's strong interest in learning mathematics, without necessarily delimiting this as the journal's sole or even primary focus. The editorial on page 1 of issue 1 claims: "I want to do something to serve the interests of those who have to learn mathematics." A wide range of things can be offered "for the learning of mathematics": the title signals one answer to the question of what the journal is for.

FLM, like its editor-creator, is strongly orientated toward the mathematical, including its history and philosophy, in order to offer illumination of some of the issues at work within mathematics classrooms at all levels. FLM takes mathematics seriously. This has little to do with the age of pupils or complexity of mathematical content. It is possible to take mathematics in infant schools very seriously, as authors such as Gattegno, Rotman, Tahta and Walkerdine have shown, illuminating the referential and symbolic complexity of early arithmetic.

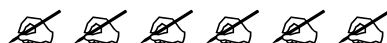
Elsewhere, in particular regard to mathematics, David Wheeler has written: "Dewey said somewhere that subject matter is a prime source of pedagogical insights. Almost no educators really believe this, I think, except in the trivial sense of hoping that teachers, textbook writers, and curriculum designers "know their mathematics". Even many mathematicians, who ought to know better, have no interest in looking below the instrumental or formal surface of mathematics in order to get clues about how to present it more effectively."

Wheeler has published, indeed championed, some pioneering work in the use of history of mathematics in classrooms, as well as strongly underpinning by his support a continuing exploration of the notion of "ethnomathematics". There is actually something of an irony here, as this latter notion in its various manifestations has proved a source of ambivalence to him (not least in connection to his own work on the notion of mathematising). Yet, as psychoanalyst Adam Phillips has noted, "ambivalence makes us vulnerable, because we are always on the side of the enemy".

For the Learning of Mathematics has proved itself to be open to some unfamiliar and unexpected writing (not least on occasion unexpected by the editor himself, a consequence of engaging guest editors). The special issue on psychodynamic influences brought together a number of such pieces, though other writing drawing on similar elemental themes (such as by Early or Blanchard-Laville) had appeared in the journal prior to this collection. As David has often pointed out, he doesn't have to agree with his authors. Even the Radatz article on student errors in the first ever issue contained a citation by Freud.

David Wheeler's sense of the mathematical and the educational, of what is worthwhile attending to, is well represented in the pages of his journal. It reflects a disciplined eclecticism and an appreciation of a wide variety of writing, both in content and style, corralled by a clear and unflinching eye for material of value shining through a wide range of forms. The letters he wrote to authors, whether of acceptance or rejection (producing occasional difficulty in recipients of the former in not construing them as the latter), were always motivated by a desire to make the journal the best he possibly could.

For the Learning of Mathematics will no longer be confluent with David Wheeler. But in handing its management over to the Canadian Mathematics Education Study Group / Groupe canadien d'étude en didactique des mathématiques (CMESG/GCEDM) and in taking part in the choosing of a subsequent editor, he has continued the link and underlined his continued involvement with and commitment to the journal. And it is we, its readers, who benefit and it is on behalf of the readers that I offer my appreciation.



## David Wheeler

### A personal reminiscence

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I first met David in the fall of 1977 when he was in New York for a short visit with Caleb Gattegno. Marty Hoffman and I met David at a BrewMaster Pub on 5<sup>th</sup> Avenue around 57<sup>th</sup> Street. It was the first of many beer and hamburger lunches that I shared with David over the years.

It was not till 1990 when David retired from Concordia and moved to Vancouver that I had a lot to do with him. He was working on organizing ICME 7, and moving FLM west. Most of the ICME activities he did from UBC where David Robitaille set up a computer account and terminal for Wheeler. Meanwhile at SFU, David was given storage space and an office from which he produced FLM.

During the decade of the nineties sharing biweekly or tri-weekly lunches became a routine thing with David. We sampled many of the best places for beer and hamburgers or fish-n-chips in the lower mainland. David would also say that I managed to find a few of the worse ones as well. One pub in particular stood out for both of us as having the worse fish and chips we'd ever eaten. But we always laughed about our culinary noon time adventures that often included, as the years wore on, a leisurely drive around the Vancouver area. David loved to drive around and see the sights, something he didn't do any longer on his own. He very much liked to sit high in the front seat of my Toyota van from where he surveyed and commented on the passing tableau.

When CMESG/GCEDM was held in Nova Scotia, a group of us went early in order to see some of the surrounding country. Celia Hoyles, Richard Noss, Lesley Lee, David, Sandra (my wife), and I rented a big van and toured the Gaspé region. We had a grand time together. David remarked to me later that he enjoyed the fact that he had a different driver (because both Lesley and Richard wanted to drive: they wouldn't let me dominate the driving) each day half day because it gave variety to his conversations, and he didn't get bored! As those who knew David realize, his rapier wit was never far below the surface.

David became a fixture at family dinners for various holidays. He had Christmas dinner with us, Easter dinner with us, Thanksgiving dinners with us, and even some birthday dinners. It was only after attending several such functions that he admitted one day that he wasn't all 'that' fond of turkey, but that Sandra's desserts lured him back every time!

One particularly memorable Christmas holiday season, David went to Victoria with us under the guise of attending a CMS meeting. Actually, we put David up in a small, European style hotel on Government Street in Victoria from whence he could easily walk to bookstores, and sweet shoppes, all in the midst of the very English environment of downtown Victoria. He loved it! In the evenings he climbed into the van and out to Linda's (Sandra's sister) home we would head where David settled right in to be part of Linda's family too. That was the trip we discovered David's affection for cats. We have several lovely pictures of David blissfully stroking a cat that is sleeping in his lap. Actually, if the truth were told, I think David was attracted to both families not because of any ties between David and me, but rather because of the cooking abilities of Sandra and Linda!

As I write this sitting in my office in Honolulu, a picture of David smiles at me from the bulletin board above my desk. In the photo (taken by Marty Hoffman) he is sitting at a table with Tom Kieren, Arthur Powell, Sandra and me, a glass of beer and an empty plate are in front of him, and he is waving a fork about, no doubt making a point

about something or other. That picture says so much about the two passions of David's life, good food and good conversation. I am so pleased to have shared many a meal and many a conversation with David. I shall miss him a lot.

Sandy Dawson, October, 2000



## **OTHER CMESG NEWS/AUTRES NOUVELLES DU GCEDM** **Annonces/Announcements**

### **Élections 2001:**

Les mandats biennaux de notre trésorière, Olive Chapman, et d'un membre de l'exécutif, Frédéric Gourdeau, se terminent au printemps 2001. Il est déjà temps de penser à des candidatures pour ces postes. Les mises en candidatures doivent être envoyées à Eric Muller, président du Comité de nominations, avant le 15 janvier 2001: emuller@spartan.ac.brocku.a.

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### **Elections 2001:**

Two year terms of our Treasurer, Olive Chapman, and a member of the executive, Frédéric Gourdeau, will be ending in Spring 2001. It is time now to consider candidates for these positions. Nominations for these two positions should be sent no later than January 15, 2001 to Eric Muller, Chair of the Nominating Committee, at emuller@spartan.ac.brocku.ca.



### **Rencontre annuelle de 2001 à Edmonton**

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Nous sommes en voie de compléter la planification pour notre rencontre du 25 au 29 mai 2001 à Edmonton. Nous pouvons vous garantir une excellente rencontre, comportant notamment des groupes de travail sur les mathématiques et les jeux, l'algèbre linéaire, les preuves à l'élémentaire et la formation des enseignants. Nous prévoyons aussi une séance spéciale pour célébrer l'oeuvre de David Wheeler. Le programme complet sera posté en février.

Et si ce n'est pas assez pour vous convaincre d'être des nôtres, mentionnons qu'Elaine Simmt et son équipe vont faire tout ce qu'ils peuvent pour que cette rencontre soit mémorable...

**Présentation de thèses de doctorat récentes** Comme le veut la tradition, une séance est prévue pour permettre aux nouveaux doctorants de présenter leurs travaux de thèse. Si vous avez soutenu votre thèse en 2000 ou si vous connaissez des gens qui l'ont fait, veuillez contacter l'un des coordonnateurs de la conférence.

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## 2001 Annual meeting in Edmonton

Planning for our annual meeting, to be held May 25-29, 2001 in Edmonton, is well under way. We can promise that this will be a great meeting, with working groups on math and games, linear algebra, proof at the elementary level, and teacher training. There is also a special session being planned in the memory of David Wheeler. The program will be mailed out in February.

If you need any extra reasons to come, let us simply say that the local organisers, Elaine Simmt and her team, will make sure that this is a meeting which will be remembered for a long time...

**New PhD presentations** As usual there will be sessions for new PhDs to share their work with us. If you have recently completed a PhD, or know of those who have, please contact the Co-Conference Co-ordinators.



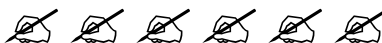
## WHAT'S HAPPENING IN MATH EDUCATION / CE QUI SE PASSE EN DIDACTIQUE DES MATHÉMATIQUES

### Preservice Mathematics Study Group at OISE/UT

Sandra Folk  
sfolk@oise.utoronto.ca

A study group of faculty who teach mathematics in the different preservice options at OISE/UT have begun meeting at the request of the associate dean. Note that options are used as a way of grouping teacher candidates for instruction and are either elementary (primary/junior and junior/intermediate), or secondary. The options might easily be compared to academies. The intention of the study group is to look at how mathematics gets taught across the options. Our goal eventually is to come up with recommendations for what should be taught and appropriate outcomes for teacher candidates at the end of the year as part of their life long learning about mathematics, its philosophy, its pedagogy. As part of our sharing of ideas and our desire to achieve our goals, we are now in the process of planning mathematics related events for teacher candidates and associate teachers.

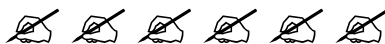
We would certainly be interested in hearing from others regarding the teaching of mathematics in preservice, related issues, and recommendations for what should be taught and appropriate outcomes for teacher candidates. Any responses would be appreciated and could be directed to me. They would then be shared with the other faculty via a mathematics conference that has been set up for us by the educations commons at OISE/UT. I look forward to hearing from you.



## Supporting Girls in Mathematics

Ann Kajander  
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The "Girls in Math Project" began at a Thunder Bay high school in September, involving university education students as mentors to high school girls. This is a two year project, funded by a MAA Tensor Grant aimed at improving attitudes of females to mathematics. In the spring, the high school girls will visit some local elementary schools, and have a chance to be mentors to grade 6 girls for three sessions.



### Mathematics Education Projects at Queen's Centre for Mathematics, Science and Technology Education

Geoffrey Roulet  
co-ordinator, CMSTE  
rouletg@educ.queensu.ca

The Centre for Mathematics, Science and Technology Education, the re-named MSTE Group, at the Faculty of Education, Queen's University has received a five-year support commitment from the Imperial Oil Charitable Foundation. These new funds, augmenting the original 1989 MSTE endowment from the Royal Bank Financial Group, will support eleven focussed projects distributed across the three disciplines and addressing all school grades. Three of the five projects funded in this first year address issues in mathematics education and are led by CMESG members: Lynda Colgan, Bill Higginson, and Peter Taylor. A fourth mathematics venture, directed by Geoff Roulet, will begin in 2001.

During the past three years Ontario's school curriculum, at all grades and subjects, has experienced a massive overhaul. The Centre's new Imperial Oil supported projects are designed to help teachers and schools address the demands of the revised expectations. Peter Taylor, working in the *Problem-Solving Approach to Senior Mathematics* project, has authored *Growth and Change*, a package of two books that provide problems and modelling exercises for the new curriculum. This project also hosted, jointly with the Fields Institute, an August workshop for teachers of senior secondary school mathematics. Funding for the Centre's senior mathematics efforts will continue for 3 more years.

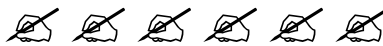
The *Tomorrow's Mathematics Classroom* project, led by Bill Higginson, builds on work initiated by the 1996 National Mathematics Education Institute, sponsored by the MSTE Group and Gage Educational Publishing. *A Handbook on Rich Learning Tasks: Realizing a Vision of Tomorrow's Mathematics Classroom*, authored by Gary Flewelling and Bill Higginson, discusses the development and application of student-involving problem-solving activities that implement the vision of mathematics teaching and learning developed in the earlier project. Work is also progressing on a second front, the *SketchMad Collaborative*, which involves a number of leading teachers and mathematics coordinators in efforts to support Ontario teachers as they begin to employ the, now provincially-licensed, *Geometer's Sketchpad*. Funding for the *Tomorrow's Mathematics Classroom* project will continue through 2003.

Lynda Colgan leads *Connect-ME*, a project that provides support for beginning elementary school teachers as they work to bring mathematics to life in their classrooms. The project website, through participants' sharing of

lesson plans and reflective narratives of teaching, promotes the development of a supportive, professional learning community. Workshops for *Connect-ME* members, such as this past summer's *Family Math Institute*, augment the group's professional sharing. *Connect-ME* will receive Imperial Oil support for the next 2 years.

An *On-line Journal for Intermediate Mathematics*, designed to provide collaborative open-ended problem solving opportunities for pupils in Grades 7 and 8, is planned for a 2001 launch. The journal website will be structured to permit visitors to explore the presented problems and leave records of their investigations for others to read and develop further. This project, led by Geoff Roulet, has support through 2004.

A portion of the funds attached to the total package of Imperial Oil supported initiatives has been set aside to finance related research into the impact of the projects. Faculty and graduate student members of the Centre for MSTE will study how teachers and pupils interact with the materials and support programs developed and assess changes in student achievement and attitude towards mathematics, science and technology.



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## MORE UPCOMING PROFESSIONAL MEETINGS / AUTRES RENCONTRES À VENIR

**NCTM Annual Meeting.** April 4-7, 2001, Orlando, Florida.

**AERA.** April 10-14, 2001. Seattle

**SCÉE.** Du 23 au 26 mai, 2001, Université Laval. / **CSSE.** May 23-26, 2001, Laval University.

**CMS.** June 2-4, 2001, University of Saskatchewan. / **SMC.** Du 2 au 4 juin 2001, Université de Saskatchewan.

**The Mathematics into the 21st Century Project International Conference on New Ideas in Mathematics Education.** August 19-24, 2001. North Queensland, Australia.

**CabriWorld 2001 – 2<sup>e</sup> congrès international sur Cabri-géomètre.** 14 au 17 juin 2001, Université du Québec à Montréal. / **2<sup>nd</sup> International Cabri Geometry Conference.** June 14-17, 2001, University of Québec in Montréal.

[<http://www.cabriworld.net>]

**SMC.** Du 8 au 10 decembre 2001, Université York. / **CMS.** December 8-10, 2001, York University.

**ICMI-EARCOME 2/SEACME 9.** June 2002, Singapore

**NCTM Canadian Regional Conference.** August 2002. Montreal. / août 2002, Montréal.

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*I would like to thank Executive member Frédéric Gourdeau for his major contribution as translator, reviewer, and editor of all French language text. - Doug Franks*



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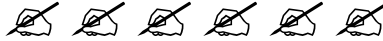
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### **L'EXÉCUTIF DU GCEDM/ CMESG EXECUTIVE 2000-2001**



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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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.

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