

CMS

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## FROM THE PRESIDENT'S DESK



*Richard Kane*

*(voir la page 7 pour la version française)*

I am happy to continue the tradition of having regular reports from the President appear in the *Notes*. I hope to have a report appear in every second issue of the *Notes*. There is no more appropriate way of starting out my first article than by thanking and congratulating my predecessor, Kathy Heinrich, on her very effective term as President. The full impact of her initiatives will not be fully apparent for another year or two but it is already clear to all those who are actively involved in the CMS that there are few of its activities which did not feel the impact of her efforts. In fact, much of what is discussed below reflects her influence.

As a preliminary comment before beginning the main discussion, I would like to note that the past few months have been productive ones for Canadian Mathematics. The already reported elevation of Canada to Group V

status in the International Mathematical Union was a significant international recognition. As well, the results of the 1998 Reallocation process were announced in June. Both the budgets of the Mathematics GSC's and the funding envelope for the Mathematical Institutes received significant increases. These results are reported upon in a separate article in these *Notes*.

The CMS meeting in Saint John, New Brunswick on June 13-15 marked the beginning of my term as CMS President. In this article I am going to highlight three important items discussed by the Executive and the Board during that meeting. Let me begin, however, by complimenting the organizers of the Saint John meeting for such a successful event. Successful meetings depend on a successful program. A major emphasis in the organization of recent semi-annual meetings has been to increase meeting participation by offering as broad a range of sessions as possible. The 10 different sessions offered at Saint John certainly realized this objective. There was a large turnout (214 registrants) and, by all accounts, everyone found the meeting very productive and also enjoyed their visit to Saint John itself. So thanks to Bob Rosebrugh, the Meeting Director, Abraham Punnen, the Chair of the Local Arrangements Committee and the many other organizers for their efforts. I might also report that, as far as can be determined, all participants actually managed to find their way to Saint John.

*(continued on page 5)*

*CMS NOTES*  
*NOTES DE LA SMC*

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## EDITORIAL

As we approach the end of the twentieth century it is natural to take stock of the joys that we have experienced, the frustrations we have undergone, the blunders we have committed and the significant achievements we have made. There is no doubt that someone will publish a book about the problems and accomplishments of this century. It will be interesting to look at these matters from the point of view of mathematics. One problem that deserves immediate attention is that of preparing our students in schools and colleges to be mathematicians of the twenty-first century. The youth of today who are such students will be the teachers, researchers and leaders in the field in the first decades of the next century.

In the early eighties books like *Why Johnny can't read?* and *Why Johnny can't count?* were published and prestigious Societies focussed on the disappointingly low levels of education, especially in mathematics. Nothing has been found to improve the situation significantly; the topic of educational fiasco in our institutions continues to be a theme of perennial interest.

In my last editorial (*Notes*, April 1998) I stressed the need for finding new ways of making our programmes in Colleges and Universities more attractive. I noted also that there was improvement in certain sections of the country so far as high school mathematics was concerned. I would like to reiterate here the necessity of developing programmes designed to motivate students towards basic mathematics, eradicating negative attitudes towards mathematics in general, and taking account of the needs of the teaching of, and research in, mathematics in the next century.

À mesure que se rapproche la fin du 20<sup>e</sup> siècle, il est naturel de faire le bilan des joies que nous avons eues, des revers subies, des erreurs commises et des grandes réalisations. Sans doute quelqu'un publiera-t-il un livre sur les problèmes et les réalisations de ce siècle. Il sera alors intéressant de regarder ces questions du point de vue mathématique. Un problème urgent est de préparer nos étudiants dans les écoles et les collèges à devenir les mathématiciens du XXI<sup>e</sup> siècle. Ces étudiants, qui sont la jeunesse d'aujourd'hui, sont appelés à devenir les enseignants, les chercheurs et les chefs dans la première décennie du nouveau siècle.

Au début des années 1980, des livres comme *Why Johnny can't read?* et *Why Johnny can't count?* ont été publiés et des sociétés prestigieuses se sont penchées sur les niveaux très décevants de l'instruction, notamment en mathématiques. Rien n'a été fait pour améliorer sérieusement la situation et la question du fiasco pédagogique dans nos établissements d'enseignement continue à être un éternel sujet de préoccupation.

Dans mon dernier éditorial (*Notes*, avril 1998), j'ai souligné la nécessité de trouver de nouveaux moyens de rendre nos programmes dans les collèges et les universités plus attrayants. J'ai aussi souligné qu'une amélioration dans les mathématiques avait été enregistrée dans certaines parties du pays. Je dois redire la nécessité d'élaborer des programmes conçus pour motiver les élèves et les intéresser aux mathématiques de base, ce qui supprimerait les attitudes négatives à l'égard des mathématiques en général, et tenir compte des besoins de l'enseignement de cette matière et des recherches dans le domaine pour le siècle à venir.

*S. Swaminathan*

## REPORT ON REALLOCATION

Richard Kane, University of Western Ontario

This is a summary of the 1998 Re-allocation process from the perspective of Mathematics. Everything discussed below is basically available under the heading *Reallocation Exercise* on the NSERC website. <http://www.nserc.ca>.

### FORMAT OF REALLOCATION

The original format for the 1998 Re-allocation process involved taking 10 percent of the Research Grants budget (via each Grants Selection Committee (GSC) contributing 10 percent of its budget) to form a pot of \$ 20.5 million. These funds were to be redistributed among the GSC's by a Reallocation Committee, basing their decisions on 10 page presentations submitted by the research community represented by each GSC. Each submission was to be prepared by a "Steering Committee" which NSERC asked the chair of each GSC to arrange. In some cases, two GSC's combined their presentations and, accordingly, were allowed a 20 page submission. This happened in the case of Mathematics where GSC 336 (Pure Math) and GSC 337 (Applied Math) combined their efforts. The Steering Committee for Mathematics was organized through the auspices of the Mathematics Advisory and Liaison Committees. The final committee, determined in the spring of 1997, consisted of Hermann Brunner (Memorial), Catherine Sulem (Toronto, 1997 Chair GSC 337), Ken Davidson (Waterloo), Sherman Riemenschneider (Alberta), Richard Kane (Western Ontario), Michael Ward (UBC), Francois Lalonde (UQAM, 1997 Chair GSC 336)

It was decided by NSERC in 1997 that the budget of the mathematical institutes would also be subject to Reallocation. However, the institutes would not make an independent submission to the Reallocation Committee. Rather

their case was to be presented by Mathematics in its submission. The three institute directors – Don Dawson (FI), Luc Vinet (CRM), Nassif Ghoussoub (PIms) – were asked to prepare the institute case for incorporation into the document.

### FORMAT OF SUBMISSION

The discipline submissions for Reallocation were supposed to centre around answering the question "Why is it important for Canada that your research community should receive some of the funds available for reallocation?" Each submission was supposed to provide "a vision for the discipline in Canada: specific emerging areas, strengths, and priorities for the future, the need for training, and a discussion of how the research community overlaps, interacts, collaborates with or directly affects other research communities." The vision had to lead to strategies for development of the discipline and specific proposals. All requests for funds had to be in the form of explicit proposals with identified goals.

This format put a premium on each discipline identifying strategic directions and setting priorities. There was a strong suggestion that Reallocation would focus on funding compelling new initiatives. The key criterion were to be: emerging areas, scientific strength, training, and interdisciplinary activity.

### FUNDING PROPOSALS

The Mathematics submission contained three GSC and two Institute funding proposals. The three (ranked) GSC proposals were:

1. Additional funds for new applicants in emerging fields and for young researchers
2. Increased funding for graduate students

3. Adjustment in funding for top researchers

The first proposal might be described as generic. A large number of other disciplines made such a proposal. Often very explicit emerging areas were proposed for targeted funding. Mathematics did not do so but rather described a number of key areas of current research and then requested money for new and young researchers (implicitly those in these areas). This was somewhat of a compromise strategy. We received \$ 539 thousand, having asked for \$ 1 million.

The second funding request was more unique. Only one other discipline asked for such funding. The request for more money for graduate students was made on the basis of our expanding graduate programs and the employment prospects for such students. Both NSERC data and our analysis of the employment situation seemed to verify this. But the Reallocation Committee declined to award any funds (\$ 400 thousand was requested), questioning the validity of the analysis.

The third proposal was both an "underfunding" argument and a "quality" argument. Our top researchers need more money for graduate students and postdocs: they have small grants, much too small for people at their level of research activity. We received \$ 323 thousand, having asked for \$ 575 thousand. A similar proposal was made by several other disciplines -with mixed results. Other disciplines were often refused money with the suggestion that there was still room for greater selectivity being exercised in their GSC. In our case the Reallocation Committee commented that it was "receptive to this proposal, primarily because the low level of individual grants puts pressure on the GSC to increase support for the excellent researchers at the top of the discipline at the expense of the rest

of the population"

The two Institute proposals were:

1. Base Funding for PIMs
2. Funding to support new initiatives at the Fields Institute and the CRM

Each funding request was for \$800 thousand. The reaction of the Reallocation Committee was to treat the two requests as one since funding for the three institutes would be under one envelope. The committee was very receptive to the vision offered by the institutes. They awarded \$ 513 thousand to the institute envelope. They also explicitly recommended funding to start PIMs with the stipulation that PIMs should be required to obtain matching provincial and university funding (as do the CRM and the Fields Institute).

**REALLOCATION RESULTS**

The exact results of Reallocation are a bit complicated to report because they became intertwined with a dispersal of

funds resulting from the 1998 Federal budget. That budget awarded NSERC a base budget increase of \$ 71 million for 1998-99 (and more in subsequent years). NSERC assigned part of that increase to the Research Grants program. First of all, NSERC increased the Research Grants budget via an 10 percent "across the boards" increase to every individual research grant holder. This had the effect of increasing each GSC's budget by 10 percent, offsetting or nullifying the 10 percent contribution made to the Reallocation pot by each discipline. As a result, Reallocation became a strictly positive dispersal of funds.

Secondly, NSERC gave the Reallocation Committee an extra \$ 10 million to disburse. So the original Reallocation pot of \$ 20.5 million was enlarged to \$ 30.5 million. The Reallocation Committee used \$ 25.5 million to fund various proposal contained in the discipline submissions while it used the remaining \$ 5 million for a "general increase" to each GSC budget (plus the institute budget) proportional to its share

of the total Research Grants envelope.

The funding awarded to the mathematical proposals has already been described. The total increase was \$ 1,043 thousand for the GSCs and \$ 553 thousand for the Institutes. The table below is an adaptation of one prepared by Ken Davidson and provides the comparative percentage increases for all disciplines. As a benchmark figure, the \$ 30.5 million distributed by the Reallocation Committee represents an overall 14.89 percent increase to the Research Grants budget.

The NSERC press release about Reallocation contained the following summary: "The results recognized the growing importance and impact of molecular biology and information technologies in modern research, and the need for support of mathematical and statistical sciences on which much other science and engineering depend". As the table following indicates, this is a very positive assessment of Mathematics. We are being grouped with the most highly regarded disciplines.

**Reallocation Percentage Increase over 98-99**

Electrical & Computer Engineering	21.97	Space & Astronomy (overall)	15.72
Cell Biology & Molecular Genetics	20.98	GSC	13.62
Computer Science	20.82	CITA	34.57
Statistics	19.05	General Physics	14.62
Psychology	19.04	Subatomic Physics	14.62
Mathematics (overall)	18.00	Plant Biology/Food Science	14.62
GSC	14.36	Animal Biology/Physiology	9.83
Institutes	35.37	Earth Science	8.24
Evolution & Ecology	17.08	Industrial Engineering	8.04
Condensed Matter Physics	17.05	Mechanical Engineering	7.11
Chemical Engineering	16.42	Civil Engineering	3.60
Chemistry	15.72		

**PARTICULAR ISSUES**

There were 19 submissions made to the Reallocation Committee. Each group was given roughly one page of comments summarizing the Committee's reaction to their submission and to their various funding proposals. The follow-

ing discussion of certain aspects of the submission by Mathematics is based on these comments.

(1) Quality

The Mathematics community was justifiably enraged by the low quality ranking assigned to it during the 1994 Reallocation process. It is clear that

this judgement has been reversed by the 1998 Reallocation process. In this respect, the Reallocation Committee made a number of complimentary statements including the fact that the Mathematics submission "presented a powerful statement on the status and accomplishments of the Pure

and Applied Mathematics community in Canada". To put this in perspective, it should also be said that while quality was a necessary component for success in Reallocation it was not sufficient. The Reallocation Committee commented that "the most compelling arguments for additional funds came from those disciplines whose submissions made a clear case that their research was developing rapidly and moving into new and exciting areas". Indeed the Reallocation Committee criticized Mathematics (explicitly) for not clearly identifying emerging areas and (implicitly) for not targeting these areas in our funding proposals.

#### (2) Interdisciplinary

Interdisciplinary activity was designated a major criterion for Reallocation. The Reallocation Committee expressed great disappointment about the lack of projects involving interdisciplinary work, and even of the mentality for such activity. Mathematics was one of the few disciplines which came near meeting their expectations. In their comments they noted our commitment and "an impressive list of examples where mathematical subdisciplines have been applied to important issues was highlighted". The interdisciplinary work of the mathematical institutes, large and small, was naturally appreciated. But the above quotation refers to the interdisciplinary work of

individuals. So Mathematics is viewed as having a strong interdisciplinary profile.

#### (3) Institutes

The Reallocation Committee clearly was very impressed by the mathematical institutes, particularly by their ability to conduct interdisciplinary and outreach activities. The main case presented by the directors, and accepted by the Reallocation Committee, was of the necessity of PImS in the context of the three major institutes (CRM, FI, PImS) collaborating to provide the backbone for a new national infrastructure. The Committee stated its support of funding for PImS (subject to it finding matching regional funds) and of the institutes operating in the context of "a national vision".

#### (4) Training

One crucial place where Mathematics failed to make its case was with regards to our graduate programs. Simply put, despite the arguments put forward in our document, Mathematics was not viewed as offering reasonable employment prospects for our graduate students. This is a serious concern and should be addressed, where possible, before the next Reallocation. In particular, the Institutes should have a major role to play in fostering contacts between graduate students and industry.

### FINAL COMMENTS

The announcement of the 1998 Re-allocation is the culmination of more than three years of effort on the part of the Canadian Mathematics community. The community was galvanized by its very negative placing in the 1994 Reallocation process and has made a determined effort to rectify the situation. It has also witnessed ongoing efforts to develop a new level of infrastructure to support both research and outreach. One might cite the leadership provided by the 1995-97 Liaison Committee; the ongoing support, financial and otherwise, offered by the CMS for a variety of activities and initiatives; the unsuccessful effort to win NSERC funding for a National Network; and the hard work of the many people in Western Canada who have succeeded in making PImS a reality.

Outside the community, the Panel, chaired by Jean-Pierre Bourguignon, which conducted a Review of Canadian Mathematics during 1996-97, made a very significant contribution. It was the Review which mentored a constructive response by Canadian Mathematics to its situation. The case presented by Mathematics evolved out of the Review, and the strong support by the Review Panel for PImS was decisive in the evolution of the current configuration of mathematical institutes.

*(continued from page 1)*

Despite fears, there were no messages of lost souls wandering the streets of St. John's, Newfoundland in search of a math lecture.

The organizers of a meeting such as the Saint John one are representative of a much larger group. We are all aware that the CMS relies on volunteer labour to support its many activities. But few are aware of the extent of such labour. The membership of the CMS hovers around 1000. We have roughly 200 volunteers actively participating each year in CMS activities. Committees, competitions and meetings are the major forums for such involvement. An increasing number of our volunteers are coming from outside the Society but the vast majority (over 90 percent) are CMS members. This is a very

impressive level of commitment and represents one of the great strengths of the CMS.

As just suggested, one area in which the CMS has been able to draw on a wide range of committed volunteers to great effect, are national competitions for high school students. In June, I attended the banquet and awards presentation at the University of Waterloo honouring those who excelled in the 1998 Canadian Mathematical Olympiad competition. I also attended a sendoff reception at Upper Canada College for the six Canadians participating in the International Mathematical Olympiad which took place this July in Taiwan. CMS organization of the CMO has been taking place for thirty years and of the Canadian IMO team for eighteen years. This has been a truly national effort. At the moment the CMO is being organized by mathematicians at the University of New Brunswick.

Over the past thirty years, mathematicians from almost all of our provinces, often repeatedly, have taken responsibility for the CMO.

Let me now turn to three major items dealt with by the Board and Executive at Saint John.

First of all, I am happy to report that Graham Wright will continue to serve as Executive Director for the period July 1, 1999 to June 30, 2002. The terms of his reappointment were approved unanimously by the Board in Saint John. Graham has been Executive Director since 1979 and the many positive comments which we received about Graham over the past year indicate the high esteem in which he is held by CMS members. We are planning to have some re-orientation of the Executive Director responsibilities during Graham's next four years in the position. These changes are partly connected with the planning document and the reshaping of fundraising discussed below and also reflect increasing administrative pressures. We will remove the task of Managing Editor from his responsibilities with the expectation that this will allow him more time for fundraising and promotional activities, as well as for participation in the upcoming strategic planning process.

A review of the position of Executive Director was undertaken as part of the process of reappointing Graham and a clear message received from that review is that the duties and responsibilities of the position are increasing and it is becoming more and more difficult for a single part-time person to deal with them. So the question of further restructuring of the position will undoubtedly be discussed in the future.

Graham will be contributing articles to the *Notes* reporting on his activities as Executive Director. His articles will alternate with those of the President. We felt that more information about the activities of the Ottawa office might be helpful and that Graham could provide a perspective on CMS activities which would complement the reports provided by the President and others.

The planning document which has been in preparation over the past year was also approved by the Board. Planning for the future of the CMS will be implemented, in stages, via a series of task forces. The goal is to be pro-active in shaping the Society's future. The aim is to "review all aspects of CMS operations and bring forward recommendations for their development and/or modification". The document, in particular a description of the various task forces, is available from the CMS home page (<http://cms.math.ca/CMS/>) by clicking on the link "Planning: The Future of the CMS" under the "Activities" heading.

Nine task forces in all will be associated with the review. Three task forces have already been established. The reports of two (Budget and Policy, Board Representation) were submitted and accepted by the Board in Saint John while the third one (CMS Endowment Fund) presented a preliminary report.

The Endowment Fund Task Force is scheduled to present its final report this December at the winter meeting in Kingston. One recommendation of the Budget and Policy Task Force is already being implemented: the Board approved, in June, the formation of an ad hoc committee to review Electronic Services and Camel.

In October, four more task forces (Publications, Finance and Fundraising, Support of the Mathematics Community, Communications), as well as the committee to review Electronic Services and Camel, will be established by the Executive. The Executive welcomes suggestions of potential members for these task forces.

A significant reorganization of the Fundraising Committee, as well as a new framework for sponsorship, was approved by the Board in June. This restructuring has been formulated over the past year under the direction of Kathy Heinrich. How to conduct fundraising has been a perennial question in the CMS. A basic fact is that (successful) fundraising is typically conducted by professionals while the CMS has traditionally relied on the efforts of its members. Our fundraising activities have had reasonable success at the level of provincial governments but much less success in obtaining corporate sponsors. While there is no plan to move to professional fundraising, it is clear that a new urgency pervades the task of fundraising. The current CMS budget, approximately \$ 1 million and largely generated from publishing revenues, is fully committed to funding a wide range of activities. The range of funded activities has been steadily growing. This, of course, reflects the vitality of the CMS. However, unless new revenue is generated, the CMS will need to curtail this growth. From a different and more positive perspective, there is a growing awareness in the CMS of the importance of establishing stronger relations with various non academic groups. Establishing links via sponsorship is a natural part of that process.

Typical problems encountered in fundraising are how to establish contact with potential sponsors and determining the type of message about the Society which should be conveyed in any such contacts. One needs to reconcile the funding needs of the Society with the mindset of potential sponsors regarding what kind of activities they would consider funding. The new configuration is designed to address the type of fundraising problems discussed above. The new format for our fundraising will be to focus it in a small group of people, notably the Executive Director and the President, but others as well. The Fundraising Committee will be serving primarily as an advisory group rather than as active fundraisers. The new framework for sponsorship is designed to make sponsorship more attractive and understandable. Most importantly, the committee has been fortunate to acquire two energetic and able advisors, Lesya Balych (Bank of Montreal) and Rosaria Morelli (Deloitte & Touche), who can provide a bridge between the CMS and the world of finance and industry.

## DU BUREAU DU PRÉSIDENT

(see page 1 for the English version)

Avec plaisir, je continue la tradition de publier régulièrement un Mot du président dans *les Notes* et j'espère en écrire un dans un numéro sur deux. Y a-t-il d'ailleurs un meilleur moyen de commencer mon premier article qu'en remerciant et en félicitant mon prédécesseur, Kathy Heinrich pour sa grande efficacité pendant l'année de son mandat de présidente? Nous ne saisissons pas le plein impact de son travail avant un an ou deux, mais déjà tous ceux qui participent aux travaux de la SMC savent que peu d'activités de la Société ne portent pas sa marque. En fait, une grande partie de ce que j'ai à vous dire témoigne de cela.

Avant d'entrer en matière, je tiens à souligner que les derniers mois ont été productifs pour la mathématique de chez nous. L'accession (déjà annoncée) du Canada au statut de groupe V dans l'union mathématique internationale est une importante reconnaissance. En outre, les résultats du processus de réaffectation de 1998 (qui sont commentés dans un autre article) ont été publiés en juin : le budget des comités de sélection des subventions et l'enveloppe budgétaire des instituts de mathématique ont considérablement augmenté.

Mon mandat de président a commencé à la réunion de la SMC, qui a eu lieu du 13 au 15 juin à Saint-Jean (Nouveau-Brunswick). Je veux parler de trois sujets importants discutés par le bureau et le conseil au cours de cette rencontre, mais il me faut d'abord féliciter les organisateurs de la réunion, qui a été un franc succès. Une réunion réussie dépend de la qualité du programme et l'un des objectifs les plus fortement soulignés pour l'organisation des réunions semi-annuelles de la Société était la nécessité d'augmenter le nombre de participants en présentant le plus vaste éventail de séances possible. Les 10 séances du programme offert à Saint-Jean ont certainement réalisé cet objectif. La participation a été nombreuse (214 inscriptions) et, de l'avis général, la réunion a été jugée très productive en tout point et le séjour à Saint-Jean très agréable. Donc, un grand merci à Bob Rosebrugh, directeur de la réunion; à Abraham Punnen, président du comité organisateur et à tous ceux qui ont travaillé à l'organisation de la réunion. Je pourrais dire aussi que dans la mesure où l'on a pu le constater, tous les participants ont trouvé leur chemin jusqu'à Saint-Jean. Malgré les craintes, pas une âme errant dans les rues de la ville à la recherche d'une réunion mathématique n'a été signalée.

Les organisateurs de réunions comme celle de Saint-Jean représentent en fait un groupe beaucoup plus vaste. Nous savons tous que la SMC compte sur le travail bénévole pour mener ses nombreuses activités, mais l'étendue de ce travail est peu connue. La Société compte environ 1000 membres et quelque 200 bénévoles participent dynamiquement chaque année à ses activités, notamment aux travaux des comités

ainsi qu'à l'organisation des concours et des réunions. Un nombre grandissant de nos bénévoles viennent maintenant de l'extérieur de la SMC, mais la grande majorité (plus de 90 pourcent) sont membres de la Société. Nous avons là un niveau d'engagement très impressionnant qui compte parmi les grands points forts de la SMC.

L'un des secteurs dans lesquels la SMC a pu se reposer sur un grand nombre de bénévoles dévoués est l'organisation des concours pour les étudiants des écoles secondaires. En juin, j'ai assisté à la réception de remise des prix à l'Université de Waterloo, au cours de laquelle ont été honorés les meilleurs éléments qui ont participé à l'Olympiade mathématique du Canada 1998. J'étais également présent à une réception au Upper Canada College pour encourager les six Canadiens en partance pour l'olympiade internationale, qui a eu lieu en juillet à Taiwan. L'olympiade canadienne organisée par la SMC en est à sa 30e édition et l'équipe canadienne qui se rend à l'olympiade internationale a déjà dix-huit ans. Voilà un bel effort national. En ce moment, des mathématiciens organisent une olympiade canadienne à l'Université du Nouveau-Brunswick. Au cours des trente dernières années, des mathématiciens de presque toutes les provinces ont pris en charge, souvent plusieurs fois, l'organisation de ce concours.

Passons maintenant au trois grand sujets qui ont été discutés à Saint-Jean par le bureau et le conseil.

D'abord, je suis heureux d'annoncer que Graham Wright continuera à remplir ses fonctions de directeur administratif du 1er juillet 1999 au 30 juin 2002. Les conditions de sa reconduction ont été unanimement approuvées par le conseil à Saint-Jean. Graham est directeur administratif depuis 1979 et les nombreux commentaires élogieux qui nous parviennent sur lui nous renseignent sur le degré d'estime qu'il a su inspirer aux membres de la SMC. Nous procédons actuellement à la réorientation de ses responsabilités pour les quatre années de son prochain mandat. Ces modifications découlent en partie du document de planification et de la réorganisation des efforts de levée de fonds (dont je parlerai plus bas) et sont justifiées par l'augmentation des contraintes administratives attachées à son poste. Il sera désormais libéré de ses fonctions de rédacteur en chef pour s'occuper des levées de fonds et de la promotion ainsi que pour pouvoir participer au processus de planification stratégique.

La révision des fonctions de directeur administratif fait partie de la reconduction de Graham. L'examen du dossier a clairement démontré que les tâches et responsabilités de ce poste augmentent et qu'il devient de plus en plus difficile pour une personne à temps partiel d'y faire face. C'est pourquoi une autre restructuration de ce poste sera sans doute remise à l'ordre du jour plus tard.

Graham continuera à écrire dans *les Notes* pour rendre compte de ses activités de directeur administratif et ses articles

alterneront avec ceux du président. Nous estimons qu'une information plus substantielle sur le bureau d'Ottawa pourrait être utile et que Graham pourrait donner une perspective des activités de la SMC qui compléterait les nouvelles publiées notamment par le président.

Par ailleurs, le document de planification qui était en préparation depuis un an a été approuvé par le conseil. Le plan pour l'avenir de la SMC sera mis en oeuvre par étapes à travers une série de groupes de travail. Il s'agit d'organiser l'avenir de la Société d'une manière proactive. L'objectif est de revoir tous les aspects des opérations de la SMC et de faire des recommandations pour leur développement et/ou leur modification. Le document qui, en particulier, donne une description des divers groupes de travail, figure dans la page d'accueil de la SMC (<http://cms.math.ca/CMS/>) sous la rubrique "Activities" et sous le grand titre "Planning: the Future of the CMS".

Un total de neuf groupes de travail participeront à la réorganisation. Trois ont déjà été établis et deux d'entre eux (Budget et politiques, Représentation du Conseil) ont soumis leur rapport au conseil, qui les a acceptés à Saint-Jean. Quant au troisième, qui est chargé du Fonds de dotation de la SMC, a présenté un rapport préliminaire et doit soumettre son rapport à la réunion d'hiver qui aura lieu à Kingston en décembre. L'une des recommandations du groupe de travail Budget et politiques est déjà en voie d'application: en juin, le conseil a approuvé la formation d'un comité spécial pour revoir les Services électroniques et les Services Camel.

En octobre, la direction établira quatre nouveaux groupes de travail (Publications, Finances et levées de fonds, Soutien à la communauté mathématique, Communications) ainsi que le comité chargé de revoir les Services électroniques et les Services Camel. La direction accueillera avec plaisir les suggestions de membres éventuels sur ces groupes de travail.

D'autre part, le conseil a approuvé en juin une importante réorganisation du comité des levées de fonds ainsi qu'un nouveau cadre de parrainage. Cette restructuration a été proposée au cours de l'année écoulée sous la direction de Kathy Heinrich. Comment mener des levées de fonds est une question qui se pose depuis toujours à la SMC. C'est un fait reconnu

qu'idéalement, les levées de fonds (réussies) sont entreprises par des professionnels, alors que la SMC a toujours compté pour cela sur les efforts de ses membres. Jusqu'à ce jour, les campagnes de levée de fonds ont eu un succès raisonnable auprès du gouvernement provincial, mais beaucoup moins auprès des entreprises. Bien que la SMC n'ait pas l'intention de s'adresser à des professionnels, il est clair que la question des levées de fonds revêt un caractère d'urgence sans précédent. Le budget actuel de la SMC (1 million \$ environ), qui provient en grande partie de la vente des publications, est entièrement absorbé par un vaste éventail d'activités. Le nombre d'activités subventionnées est en constante croissance. Cela reflète évidemment la vitalité de la SMC, mais si celle-ci ne trouve pas de nouvelles sources de revenu, elle sera forcée de mettre un frein à cette croissance. Dans une perspective différente et plus positive, on est de plus en plus conscient à la SMC de l'importance d'établir des relations plus étroites avec des groupes en-dehors du domaine de l'enseignement. établir des liens à travers le parrainage fait naturellement partie du processus.

Les problèmes typiques rencontrés dans les levées de fonds sont : comment établir des contacts avec des parrains possibles et comment déterminer le genre de message qui devrait être transmis sur la Société dans ce genre de relations. Il faut concilier les besoins financiers de la SMC avec la tournure d'esprit des parrains possibles au sujet du genre d'activités que ceux-ci pourraient envisager de subventionner. La nouvelle configuration est conçue pour régler les types de problèmes mentionnés plus haut. Dans le nouveau cadre, les levées de fonds seront confiées à un petit groupe, soit au président et au directeur administratif, mais également à d'autres personnes. Le comité des levées de fonds aura principalement un rôle consultatif plutôt qu'actif. Le nouveau cadre de parrainage est organisé de manière à présenter le parrainage sous un jour plus attrayant et plus facile à saisir. Mais l'acquis le plus important du comité est d'avoir eu l'heur de trouver deux conseillères dynamiques et compétentes (Lesya Balych, de la Banque de Montréal et Rosaria Morelli, de Deloitte & Touche), qui peuvent faire le trait d'union entre la SMC et le monde des finances et de l'industrie.

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## Letters to the Editors/Lettre aux Rédacteurs

The Editors of the *Notes* welcome letters in English or French on any subject of mathematical interest but reserve the right to condense them. Those accepted for publication will appear in the language of submission. Readers may reach us at [notes-letters@cms.math.ca](mailto:notes-letters@cms.math.ca) or at the CMS Executive Office.

Les rédacteurs des *Notes* acceptent les lettres en français ou en anglais portant sur un sujet d'intérêt mathématique, mais ils se réservent le droit de les compresser. Les lettres acceptées paraîtront dans la langue dans laquelle elles nous sont parvenues. Les lecteurs pourront nous joindre au bureau administratif de la SMC ou à l'adresse suivante: [notes-lettres@smc.math.ca](mailto:notes-lettres@smc.math.ca).



## AWARDS / PRIX

### The 31st Jeffery Williams Prize Lecturer



*George Elliott*

The 31st Jeffery-Williams Prize Lecture was presented in Saint John at the June meeting of the Society by Professor George Elliott of the University of Toronto.

George Elliott ranks among the very best operator algebraists in the world, a place he shares with two Fields medallists. In addition to being extremely productive, he has been a visionary who has set the subject on a new course. A dramatic conjecture that he made ten years ago suggested a mechanism for classifying a large and important class of  $C^*$ -algebras. Moreover he established the prototype theorem stimulating a decade of intense searching for more pieces of this puzzle. Despite some initial scepticism, Elliott's program has had some dramatic successes; and it is now clear that his classification scheme is of fundamental importance and applies to a significant part of the conjectured class.

This work has led not only to isomorphism theorems for  $C^*$ -algebras sharing common invariants, but has also led to constructions that show that many  $C^*$ -algebras have a special structure that was not imagined a decade ago. In the last few years, Elliott's work has been recognized by many

awards, including the CRM/Fields Institute prize, a Connaught Transformative grant from the University of Toronto and a Killam research fellowship. The CMS is pleased to honour him as the winner of this year's Jeffery-Williams prize.

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George Elliott est sans doute l'un des meilleurs au monde dans le domaine des algèbres d'opérateurs, une place qu'il partage avec deux médaillés Fields. En plus d'être extrêmement productif, il est considéré comme un visionnaire après avoir dirigé le domaine dans une toute nouvelle direction. Il avait proposé il y a plus de dix ans une conjecture dramatique qui suggérait un mécanisme pour classifier une importante classe d'algèbres  $C^*$ . De plus, il établit un théorème prototype qui a stimulé une décennie d'intense recherche pour d'autres morceaux du casse-tête.

Malgré un scepticisme initial, le programme d'Elliott a quand même accompli un succès dramatique; il est maintenant tout à fait clair que son système de classification restera d'une importance fondamentale et trouvera des applications sur une partie significative de la classe suggérée par la conjecture. Cet ouvrage a débouché sur des théorèmes d'isomorphismes d'algèbres  $C^*$  ayant des invariants en commun, mais aussi sur des constructions montrant des structures d'algèbres inconnues il y a dix ans. Dans les quelques dernières années, les travaux d'Elliott ont été reconnus par plusieurs prix, en particulier celui des instituts CRM/Fields, une bourse Connaught Transformation de l'Université de Toronto, en plus d'une subvention de recherche Killam. La SMC est heureuse de lui accorder cette année le prix Jeffery-Williams.

### The 4th Krieger-Nelson Prize Lecturer



*Catherine Sulem*

The 4th Krieger-Nelson Prize Lecture was presented in Saint John at the June meeting of the Society by Professor Catherine Sulem of the University of Toronto.

Catherine Sulem of University of Toronto works in the area of partial differential equations arising in physical contexts such as fluid mechanics, nonlinear optics and plasma physics.

Her recent research has led to important breakthroughs in understanding of many nonlinear phenomena associated with the focusing nonlinear Schrödinger equation and the water wave problem.

Her work is of great interest because of the importance of the results and also of the techniques involved which include a mix of functional analytic methods, asymptotic expansions and numerical simulations.

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Catherine Sulem de l'Université de Toronto travaille dans le domaine des équations à dérivées partielles provenant de contextes physiques, tels que la mécanique des fluides, l'optique non linéaire et la physique du plasma.

Sa recherche récente a entraîné

des développements importants sur les phénomènes non linéaires associés aux équations de Schrödinger en plus du problème des vagues d'eau.

Son travail est d'un grand intérêt dû à l'importance des résultats et des techniques qui comportent un mélange de méthodes d'analyse fonctionnelle, d'expansions asymptotiques et de simulations numériques.

**Thomas L. Saaty Prize**



*T. Pham-Gia*

The 1996 Thomas L. Saaty Prize has been awarded to Professor T. Pham-Gia (Chairman, Department of Mathematics and Statistics, University of Moncton, New Brunswick, Canada) for his paper "Some Applications of Lorenz Curve in Decision Analysis," which the judges state "is application-oriented," "shows how ... tools borrowed from economics can be used in Bayesian Decision Theory ... a contribution to Management Science" and " ... brings convenient machinery for handling ... loss functions" with "insightful interpretations and graphical visualizations."

The prize-winning article appeared in Vol. 15 of the American Journal of Mathematical and Management Sciences, published by American Sciences Press, Inc.

**Distinguished Alumni Award  
McMicken College,  
University of Cincinnati**

Lee Lorch, Professor Emeritus at York University, has received the distinguished alumni award of the McMicken College of Arts and Sciences, University of Cincinnati. In addition to his well-known work in analysis, Lorch was cited for his courageous actions in support of civil rights. This activity cost him several academic jobs in the United States during the 1940's and '50's. In 1959, effectively blacklisted in the US, Lorch moved to Canada, first to the University of Alberta and, in 1968, to York University. Professor Lorch has been the recipient of several honorary degrees and awards for his contributions to civil rights and the education of black mathematicians.

**André-Aisenstadt  
Mathematics Prize**



*Boris A. Khesin*

The Centre de Recherches Mathématiques has announced the award of the 1997 André-Aisenstadt Mathematics Prize to Professor Boris A. Khesin of the University of Toronto.

Professor Khesin was cited for his work in infinite-dimensional Poisson geometry and Lie groups and his wonderful geometric intuition applied to

problems in topological hydrodynamics and groups of double loops. He did fundamental work in bifurcation theory where he proved R. Thom's rule of "seven elementary catastrophes" in dynamical systems. Professor Khesin also discovered the "logarithm of the derivative," a beautifully simple notion providing a link between determinant theory and the theory of infinite-dimensional integrable systems.

Boris Khesin did his undergraduate and graduate work at Moscow State University, obtaining his Ph.D. under the direction of Professor V. I. Arnold in 1990. He then held positions at the University of California at Berkeley, Yale University and the Isaac Newton Institute before accepting a permanent position at the University of Toronto where he is currently an associate professor and Sloan Fellow.

The Aisenstadt Prize is given annually in recognition of research achievement in pure and applied mathematics by young Canadian mathematicians and consists of a \$ 3000 award and a medal. It was commissioned by the well-known philanthropist Dr. André Aisenstadt and first awarded in 1991.

The previous recipients were:

- 1996 Henri Darmon  
(McGill University)
- 1996 Lisa Jeffrey  
(McGill University)
- 1995 Adrian S. Lewis  
(University of Waterloo)
- 1994 Nigel Higson  
(Pennsylvania State University)
- 1994 Michael J. Ward  
(University of British Columbia)
- 1993 (No prize awarded)
- 1992 Ian F. Putnam  
(Victoria University)
- 1991 Niki Kamran  
(McGill University)

## Canadian Undergraduates Mathematics Conference 1998

*“Are there any doctors in the house? Have they all left? Perfect... We are all mathematicians.”*

And with those words, Michael Kozdron, President of CUMC 98, made us all laugh. Maybe he feared that professors would not agree with the idea that students at the undergraduate level are *mathematicians*. Certainly the CMS does, having shown its support to the CUMC over these first five years.

Recalling its history briefly, the CUMC started in 1994, when students from McGill, having been to the Canadian Undergraduate Physics Conference, decided to create a similar event for mathematics students. The *Canadian Undergraduate Mathematics Conference (CUMC)* was born. Subsequently, the conference has been held at the universities of Manitoba, Waterloo, Montreal, and this year, at UBC.

Thus, between July 9 and 12, 1998, the team of Michael Kozdron welcomed us to the University of British Columbia campus. Over 90 students, from 18 Canadian universities, from Victoria to Memorial, were present. From this group, 37 gave 20 or 45 minute talks, and submitted articles for the CUMC proceedings. These will be available as soon as possible.

In addition to student talks, we had the chance to hear some excellent invited speakers: Hervé Moulin (Duke), Leah Edelstein-Keshet (UBC), Ivar Ekeland (Paris-Dauphine), Peter Borwein (SFU) and David Austin (UBC). The CUMC is a chance for students at the undergraduate level to learn to give a talk. To assist them in this, Lon Rosen (UBC) held a workshop entitled “How to give a good talk”.

Bilingualism is a very important aspect of the CUMC. Two of the invited speakers (Moulin and Ekeland) gave their talks in French. Certain of the students also gave theirs in French, and some even gave bilingual ones. This bilingualism has allowed several Anglophones to realise that they want to learn more French, with the similar occurrence happening for the Francophones. We congratulate Michael for his excellent efforts in this respect, and for having organised a superb conference in general.

If the CUMC is a unique experience for its participants, it is as much of an enriching experience for its organisers. The team of Tara Stuckless, President of the Math and Stats Society of Memorial University of Newfoundland, has volunteered to do the work next year. She has the support of her department, and so undergraduates from math departments from across Canada will fly over to St. John's next year, for CUMC 1999.

Where will CUMC 2000 be? During the CUMC, the location of the next year's conference is decided. If you believe that your university should host it, send your students to St. John's next year to bring it back. You should send them regardless of whether you want the conference or not, thereby

giving a major plus to their education.

*Direct from Vancouver: Benoit Charbonneau and Daniel Piché*

Information regarding the activities at this year's conference can be found at the CUMC website at [www.cumc.math.ca](http://www.cumc.math.ca).

*-Est-ce qu'il y a des docteurs dans la salle? Ils ont tous quitté? Parfait... Nous sommes tous des mathématiciens.*

Voilà comment Michael Kozdron, président du CCÉM 1998, a réussi à nous faire bien rire. Peut-être craignait-il que les professeurs ne soient pas d'accord avec l'idée que les petits étudiants du baccalauréat soient des *mathématiciens*. La SMC nous a cependant montré à cinq reprises qu'elle y croyait, en donnant son appui lors des ces cinq premiers CCÉM.

Voici un bref historique de la situation. En 1994, divers étudiants de l'Université McGill, étant allé au congrès canadien des étudiants en physique, décidèrent de créer un événement semblable pour les gens en mathématiques. Le *Congrès canadien des étudiants en mathématiques (CCÉM)* était donc né. Depuis, la conférence s'est tenue aux universités du Manitoba, de Waterloo, de Montréal, et cette année, à UBC.

C'est donc du 9 au 12 juillet 1998 que l'équipe de Michael Kozdron nous a accueilli sur le campus du University of British Columbia. Plus de 90 étudiants de 18 universités du Canada (Victoria à Mémorial) étaient présents. Parmi ceux-ci, 37 d'entre eux ont donné un exposé de 20 ou 45 minutes, et ont soumis des articles pour les actes de la CCÉM. Ceux-ci seront disponibles dès que possible.

En plus des exposés des étudiants, nous avons eu la chance d'avoir d'excellents conférenciers invités: Hervé Moulin (Duke), Leah Edelstein-Keshet (UBC), Ivar Ekeland (Paris-Dauphine), Peter Borwein (SFU) et David Austin (UBC). Le CCÉM est une occasion pour les étudiants du premier cycle en mathématiques d'apprendre à faire une présentation. Pour les aider dans cette tâche, Lon Rosen (UBC) a animé un atelier intitulé “Comment faire un bon exposé”.

Le bilinguisme est un aspect important du CCÉM. Deux des conférenciers invités (Moulin et Ekeland) ont donné leur conférence en français. Certains étudiants ont aussi fait leur exposé en français, et certains même ont fait un exposé bilingue. Ce bilinguisme constant a permis à plusieurs anglophones de se rendre compte qu'ils veulent apprendre le français davantage, et la même chose s'est produite chez les francophones. Nous félicitons Michael pour ses excellents efforts dans cet aspect, et d'avoir organisé un superb congrès en général.

S'il s'agit d'une expérience unique pour les participants, il s'agit d'une expérience tout aussi enrichissante pour les organisateurs. L'équipe de Tara Stuckless, présidente du Math

and Stats Society of Memorial University of Newfoundland, s'est porté volontaire pour faire le travail l'an prochain. Elle a l'appui de son département et les étudiants du premier cycle en mathématiques de tout le Canada s'envoleront donc l'an prochain pour St. John's où aura lieu le CCÉM 1999.

Où sera le CCÉM 2000? Pendant le CCÉM, l'emplacement du congrès de l'année suivante est décidé. Si vous croyez que votre université devrait être l'hôte pour l'an

2000, envoyez vos étudiants à St. John's l'an prochain pour ramener le congrès. Vous devriez aussi penser à les envoyer peu importe si vous voulez le congrès ou non, vous donnerez ainsi un gros plus à leur formation.

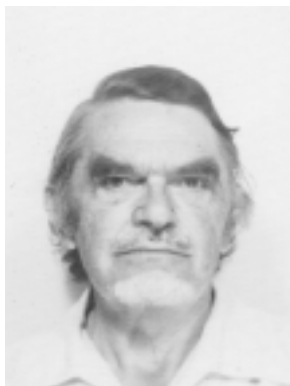
*En direct de Vancouver: Benoit Charbonneau et Daniel Piché*

Il est possible de consulter tout le programme au site du congrès [www.cumc.math.ca](http://www.cumc.math.ca).

## Lambekfest at McGill

*Michael Barr, McGill University*

Editor's note: *On December 5, 1997, a one-day symposium was held at McGill in honour of Professor Jim Lambek's 75th birthday. The symposium opened with a talk by Michael Barr about Lambek's career in mathematics, and included talks by David Handelman (Ottawa), Robert Paré (Dalhousie) and V. Michele Abrusci (University of Bari, Italy). Professor Barr's remarks follow.*



*Jim Lambek*

I would like to welcome all of you here, who, with one exception, are here today to honour Jim Lambek.

Jim was born 75 years ago today in Leipzig, Germany. In the late 30s, he "moved" to England, where worked on a farm. When Churchill took over, in order to demonstrate his toughness, he had all German aliens examined by local magistrates and branded as harmless, as spies or as something in the middle. Jim, as an able-bodied male, I suppose, was put in the middle category

(while his mother and sister were harmless). The people in the middle category were transported to the colonies, either Canada or Australia. Jim, of course, suffered the former fate. After he had spent about two years in a camp, mainly in New Brunswick (but including a week on Île Ste. Hélène, which would become the site of Expo 67), the authorities decided that people like Jim should not have been imprisoned and he was released. Those who found Canadian sponsors were allowed to stay in Canada. Fortunately, a Montreal businessman agreed to sponsor him. So he settled in Montreal and entered McGill, earning an honours degree in mathematics in 1945 and an M.Sc. a year later. One result of all this is that he spent the war years safely in Canada, while his mother and sister endured the blitz in England, coming to North America only at the end of the war. Thus does the world move in its mysterious ways.

He was immediately hired as a lecturer in mathematics. In those post-war days, McGill had to expand rapidly to make room for returning veterans and one way it dealt with the problem was by opening a satellite campus in St. Jean. Getting there was his responsibility. Jim told me that once he missed the train for reasons beyond his control and skipped the class. The chairman told him he should have taken a taxi—at his own expense of course. This would have cost \$10. To put this in modern terms, you should probably figure

about \$200.

In 1950, he completed his Ph.D. under Hans Zassenhaus and was promoted to assistant professor. In those days, assistant professors taught at least 12 hours a week and were not expected to do much, if any, research. I had been under the distinct impression that Jim had published little or nothing during the ensuing decade, but when I actually looked at his CV, I was surprised to discover that he had 14 publications between 1951 and 1959!

Half of those papers were written with Leo Moser and appear to be combinatorics and elementary number theory. However, even in those early days he had begun research on several of the areas of mathematics that would occupy the rest of his career. In 1958, he published his first paper on the syntactic calculus, which continues today to occupy him (or, perhaps, once again occupies him) as well as his first paper on rings of quotients.

Although there were two more publications in mathematical linguistics in the following three years, he appears to have abandoned the subject for over a dozen years. But the world didn't abandon the subject and a small but lively group of researchers, mainly in Europe, developed the subject of "Lambek grammars", of which we will hear more this afternoon. In North America, Chomskian grammars, which originally relied heavily on grammatical transformations, won the day. This was the notion that a "deep structure"

is generated and then "transformed" by movement rules into a "surface structure". In this view, a passive sentence, for example, has the same DS as the corresponding active sentence and the passive is created by a rule that transforms the active into the passive. Although superficially attractive, this rule proved impossible to formulate precisely. More importantly, it was observed (although it should have been obvious) that, in English at least, the same rules that generate the active mode will also generate the passive.

Almost unnoticed at the time was a short paper in the Canadian Mathematical Bulletin, "How to program an infinite abacus". This paper described a theoretical computing engine, which he called an abacus, that is much simpler conceptually than a Turing machine, but is Turing complete. It is very easy to program; unlike a Turing machine, it is obvious how to build in subroutines and has been heavily used by Yuri Matjesevich and others to study recursive function theory. Matjesevich called them Minsky machines (after Marvin Minsky, who discovered them independently), and I used to call them Lambek machines. Following Matjesevic, who tracked down all the discoveries and rediscoveries, of which there were several, all at the same time, I now call them register machines. I do not understand why computer theorists still burden their students with Turing machines, when this vastly simpler alternative is at hand.

Jim then turned his thoughts for most of a decade to ring theory, par-

ticularly to rings of quotients. He published many papers on the subject, culminating in the very successful and influential book, *Lectures on Rings and Modules*.

In the meantime, Jim spent his sabbatical year 1965–66 in Zürich at the Forschungsintitut für Mathematik der Eidgenössische Technische Hochschule where Beno Eckmann had gathered together a group of people interested in algebraic topology and, incidentally, category theory. Bill Lawvere was spending that year (and part of the next) there and, doubtless under that influence, Jim got interested in categories. When I arrived in Zürich in the winter of 1967, I was handed a copy of LNM #24, *Completion of Categories*, by one J. Lambek. I have to admit that I had never heard of him, although the ring theory had led him to dabble a bit into homological algebra which is what I was doing at the time. At any rate, the year spent in Zürich appears to have re-oriented his research into category theory as my six months there seems to have done for me.

I finally met Jim at a meeting of the "Midwest Category Seminar", a series of meetings held over a six or seven year period mainly in Chicago sponsored by Saunders MacLane. At that time, I was looking to escape from Urbana, we had a short discussion and the rest is history. In 1968, Jim published a paper called "A fixpoint theorem for complete categories", in which he extended to categories a fixed point theorem well-known for posets. This small, beautiful, theorem turns out to

have been extremely important in some of the applications of category theory in computer science. Once again, Jim was the first person to make a small but extremely important observation.

During the 1970s, his researches combined ring theory, torsion theory and category theory, much of the latter in collaboration with Basil Rattray. During this decade, he renewed his interest in mathematical linguistics, studying formally verb conjugations in French and Latin. As well, he began to show an interest in applications of category theory to logic. This last interest resulted in a fruitful collaboration with Phil Scott that culminated in a book, *Introduction to Higher Order Categorical Logic*.

In recent years, Jim has not slacked off; au contraire, I think he is publishing at a greater rate than ever. Aside from a few papers in categorical logic, one third of his recent work has been in linguistics, returning to the grammars of syntactic types. Just 10 days ago, he gave a very interesting seminar on the subject. As far as I can tell, he is now using ideas of modern category theory to reformulate and tighten the ideas first announced in the 1958 paper. As for the other two thirds of the papers, they include contributions to category theory, logic, philosophy, and physics. His total of publications has, as of last May, reached 107 and they are still coming. And these are papers that he has written or been a major collaborator to, not the kind common to so many areas of science, "It was done in my lab, my name goes on it—first."

### Did you know? ...

The CMS Office is on the University of Ottawa Campus. All correspondence from participating Ontario universities can be sent IUTS - **free of charge**.

### Saviez-vous que? ...

Le Bureau administratif de la SMC est situé sur le campus de l'Université d'Ottawa. Toute correspondance provenant d'une université ontarienne peut être envoyée **gratuitement** via IUTS.

**CMS Winter 1998 Meeting  
Queen's University and  
Royal Military College  
Kingston, Ontario  
December 13-15, 1998**

**Second Announcement**

On behalf of Queen's University and the Royal Military College we extend a warm invitation to attend the 1998 Winter Meeting of the CMS.

The meeting will be of exceptionally broad interest, with a programme encompassing at least eleven symposia, various meetings, and plenary talks including the Coxeter-James Lecture and a public lecture given by H.S.M. Coxeter of the University of Toronto. The symposia are in algebraic geometry, extremal combinatorics, discrete geometry, education, number theory, operator algebras, probability theory, universal algebra and multivalued logic, and topology. In addition there will be the usual Graduate Seminar and a session for Contributed Papers.

The meeting is centered at the Holiday Inn on the Kingston waterfront, and will run from Sunday, December 13 to Tuesday, December 15, 1998. Scientific activities will take place in the Holiday Inn and the Howard Johnson Confederation Place Hotel immediately adjacent to it.

**Plenary Speakers**

**Miklos Csörge** (Carleton)

**Henri Darmon** (McGill)

**Z. Füredi** (Illinois at Urbana / Inst. Hungarian Acad. Sci.)

**Donal O'Shea** (Mt. Holyoke College).

**Prize Lectures**

The **Coxeter-James Lecture** will be given by **Henri Darmon**, McGill University.

**Public Lecture**

*Saturday, December 12, 8:00 p.m.*

**H.S.M. Coxeter**, University of Toronto

*The Descartes Circle Theorem and Fibonacci Numbers*

**Symposia**

By invitation of the Programme Committee, there will be symposia in the following areas.

*Algebraic Geometry*

(Org: **P. Milman**, University of Toronto)

Donal O'Shea (Mt. Holyoke College), Fedya Bogomolov (NYU Courant Institute), Askold Khovanskii (Univ. of Toronto), Jenia Shustin (Tel-Aviv Univ.), Yosef Yomdin (Weizmann Institute).

*Discrete Geometry*

(Org: **Robert Erdahl**, Queen's University, **Marjorie Senechal**, Smith College, and **Walter Whiteley**, York University).

Speakers to be announced.

*Education Session*

*Identifying and Overcoming Barriers to Teaching and Learning Mathematics at University*

(Org: **Morris Orzech and Grace Orzech**, Queen's University)

Donal O'Shea (Mt. Holyoke College) - plenary, Ed Barbeau (University of Toronto), Bernard Hodgson (Université Laval), Tom Rishel (Cornell University), Martha Siegel (Towson University), Morris Orzech (Queen's University).

*Extremal Combinatorics*

(Org: **D. de Caen**, Queen's University)

Zoltan Füredi (University of Illinois at Urbana and Math. Inst. Hungarian Acad. Sci.) - plenary, Richard Anstee (UBC), Jason Brown (Dalhousie), Ralph Faudree (Memphis), Jerrold Griggs (South Carolina), Penny Haxell (Waterloo), David Fisher (Colorado), Felix Lazebnik (Delaware), Laszlo Székely (South Carolina), Bing Zhou (Trent).

*Number Theory*

(Org: **Ram Murty and Noriko Yui**, Queen's University)

This session has received additional funding from the Centre de recherches mathématiques.

Henri Darmon (McGill) - plenary and Coxeter-James Lecturer, Chantal David (Concordia), Jacek W. Fabrykowski (Manitoba), E. Goren (McGill), C. Greither (Laval), Hershy Kisilevsky (Concordia), Manfred Kolster (McMaster), A. Ledet (Queen's), Claude Levesque (Laval), Kumar Murty (Toronto), W. Nowak (Australia), Vladimir Platonov (Waterloo), Daniel Roy (Ottawa), Gary Walsh (Ottawa), Hugh Williams (Manitoba), Kenneth Williams (Carleton).

*Operator Algebras*

(Org: **James Mingo**, Queen's University)

Ken Davidson (Waterloo), George Elliott (Toronto), Thierry Giordano (Ottawa), Andu Nica (Waterloo).

### *Probability Theory*

(Org: **Miklos Csörge**, Carleton University)

This session has received additional funding from The Fields Institute.

Miklos Csörge (Carleton) - plenary, Siva Athreya (Fields), M. Claude Belisle, Murray D. Burke, Colleen D. Cutler (Waterloo), Andre R. Dabrowski (Ottawa), Eric Derbez, Shui Feng (McMaster), Rene Ferland, Antonia Foldes, Genevieve Gauthier, Christian Genest, Edit Gombay, Lajos Horvath, Gail Ivanoff (Ottawa), Mike Kouritzin (Alberta), Reg Kulperger (Western Ontario), Brenda MacGibbon, Neal Madras (York), Don L. McLeish (Waterloo), Majid Mojirshuibani, Bruno Remillard (Québec-Trois Rivières), Jeffrey S. Rosenthal (Toronto), Tom Salisbury (York), Byron Schmuland (Alberta), Qi-Man Shao, Zhan Shi, Gordon Slade (McMaster), Christopher G. Small (Waterloo), Barbara Szyszkowicz (Carleton), Jean Vaillancourt, Keith Worsle, Hao Yu, Ricardas Zitikis.

### *Topology*

(Org: **Eddy Campbell**, Queen's University)

*Differential Geometry and Global Analysis* (Org: **Muang Min-Oo and McKenzie Wang**, McMaster University).

Christoph Boehm (McMaster), Jingyi Chen (MIT), Ailana Fraser (Stanford), W. Goldman (Maryland), Ross Niebergall (UNBC), P. Ryan (McMaster), John Toth (McGill), Patrice Sawyer (Laurentian), Miroslav Lovric (McMaster), Jeffrey Boland (McMaster), Alina Stancu (Courant Institute), Igor Belagradek (McMaster) Mike Gage (Rochester) Mohan Ramachandran (SUNY Buffalo).

*Homotopy Theory* (Org: **Lisa Langsetmo**, University of Ottawa and **Jim Shank**, Queen's University). Speakers to be announced.

*Set Theoretic Topology* (Org: **Juris Steprans and Steve Watson**, York University). Speakers to be announced.

*Symplectic/Low Dimensional Topology* (Org: **Steve Boyer**, UQAM), **Jacques Hurtubise**, McGill, CRM and **François Lalonde**, UQAM, CRM). Speakers to be announced.

### *Universal Algebra and Multiple-Valued Logic*

(Org: **L. Haddad**, Royal Military College)

Speakers to be announced.

### *Contributed Papers Session*

(Org: **L. Haddad**, Royal Military College)

Contributed papers of 15 minutes duration are invited and graduate students are particularly urged to participate. Abstracts for CMS contributed papers should be prepared as

specified below. For an abstract to be eligible, the abstract must be received **before September 30, 1998**. The abstract must be accompanied by its contributor's registration form and appropriate fees.

### *Graduate Student Session*

(Org: **David Gregory**, Queen's University)

A special session is being organized for graduate students. Anyone interested in participating in the organization of this programme should contact the Meeting Director at the following address: **md-w98@cms.math.ca**

## Submission of Abstracts

Titles for Plenary Speakers, Prize Lecturers and Invited Special Session Speakers for the scientific and education programme will appear in the **November** issue of the *CMS Notes*. Titles for Contributed Papers will appear in the **December** issue of the *CMS Notes*. All abstracts will be published in the meeting programme and will also be available on the Canadian Mathematical Electronics Services (Camel).

**Plenary Speakers, Prize Lecturers and Invited Special Session Speakers for the scientific and education programme:** These speakers are asked to submit their abstracts to the CMS as instructed by their organizers.

Abstracts may be sent electronically, following instructions given below. Abstracts may also be prepared on the standard CMS form available from the session organizer or the CMS office in Ottawa. Abstracts should be sent to the Abstracts Coordinator, CMS Executive Office, 577 King Edward, P.O. Box 450, Station A, Ottawa, Ontario Canada K1N 6N5, **so as to arrive by September 30, 1998**.

**Contributed Papers:** Those submitting contributed papers may submit their abstracts electronically, following instructions given below, or by using the standard CMS form available from the CMS office in Ottawa or in the **September** issue of the *CMS Notes*. Abstracts should be sent to the Abstracts Coordinator, CMS Executive Office, 577 King Edward, P.O. Box 450, Station A, Ottawa, Ontario Canada K1N 6N5, **so as to arrive by September 30, 1998**.

**Electronic submission of abstracts:** This service is available only to those who use the  $\text{\TeX}$  typesetting system. Files should include the speaker's name, affiliation, complete address, title of talk and the abstract itself. Files may be sent by e-mail to the Abstracts Coordinator at: **abstracts@cms.math.ca**

*Please note the appropriate deadline given above for the submission of your abstract. Please note that we cannot accept abstracts sent by FAX.*

## Social Events

**Welcoming Reception:** Social events include a cash-bar reception scheduled for Saturday evening from 6:00-8:00 p.m., during evening registration at the Holiday Inn, Kingston Waterfront.

**Delegate's Luncheon:** The CMS delegates' luncheon will be held at the Howard Johnson Confederation Place Hotel on Sunday, December 13. The cost of this luncheon is included in all registration categories.

**Banquet:** The CMS banquet will be held at the Royal Military College on Monday, December 14. A cash bar will precede the event. Banquet tickets are available at \$45 each.

Vegetarian meals are available upon advance request. Please indicate preference on your meeting registration form. Ticket prices include wine, taxes and gratuities.

**Coffee Breaks:** Coffee and juice will be available.

## Exhibits

**Exhibits:** Exhibits will be open during specified hours in the Holidome area of the Holiday Inn. The CMS exhibit will be open throughout the course of the meeting.

**Joint Exhibit:** This exhibit features books and other products from publishers and other companies and organizations not represented at the meeting. Order forms will be available at the exhibit for your convenience. The CMS Operations Manager will forward any orders to the corresponding company after the meeting. Books and other materials that will be displayed at this Joint Exhibit will be donated to the local university.

**CMS Membership Booth and Book Display:** We invite delegates to visit the CMS Membership Booth and Book Display. A representative will be available from 9:00 a.m. to 5:00 p.m. every day to answer questions about membership, future meetings, publications and other programmes.

**Information table:** In response to members' suggestions, this table will be set up in the registration area for information of interest to delegates. Please send a copy of your announcement to the Operations Manager, CMS, 577 King Edward, Suite 109, P.O. Box 450, Station A, Ottawa, Ontario, Canada K1N 6N5, facsimile (613) 565-1539.

All announcements require prior approval. Once approved, delegates may display up to 100 copies of the announcement. The delegate is responsible for providing all copies for display and for removing any remaining copies before 3:00 p.m. on the last day of the meeting. After that time, all remaining material will be discarded.

Announcements may not be posted in the registration or meeting area. Personal distribution of announcements is also not allowed. Announcements of events competing in time or place with the meeting programme cannot be accepted.

This table is not meant for material promoting products or services for sale. Those wishing to promote products for

sale should contact the Operations Manager for information on the Joint Exhibit.

## CMS Business Meetings

**Executive Committee Meeting:** The Executive Committee will meet on Friday, December 11, from 9:00 a.m. to 3:00 p.m. at the Holiday Inn Kingston Waterfront.

**CMS Development Group Lunch:** The CMS Development Group, consisting of the CMS Executive Committee and the Chairs of all CMS Standing Committees, will meet on Saturday, December 12, from 11:00 a.m. to 1:00 p.m. at the Holiday Inn Kingston Waterfront.

**Board of Directors Meeting:** The Board of Directors will meet on Saturday, December 12, from 1:30 to 6:30 p.m. at the Holiday Inn Kingston Waterfront. The Board is pleased to invite the Chairs of all CMS Standing Committees and the appointed delegates from the AMS and the MAA.

**General Meeting:** The General Meeting of the Society will take place on Sunday, December 13, from 5:30 to 7:00 p.m. at the Holiday Inn Kingston Waterfront. All members are invited to attend.

**Agendas and Meeting Material:** Agendas and accompanying material for the General Meeting will be mailed three weeks before the meeting, that is **November 23**.

**Notices of Motion:** In accordance with CMS policy, notices of motion must be received at the Executive Office **at least eight weeks** before the meeting at which the notice of motion is to be considered.

Notices of motion must be duly signed by the mover and seconder, who must be members in good standing of the Society. In order to be considered at the General Meeting, such notices are to be sent to the Secretary, Canadian Mathematical Society, Executive Office, 577 King Edward, Suite 109, P.O. Box 450, Station A, Ottawa, Ontario, Canada K1N 6N5, facsimile: 613-565-1539, so as to arrive no later than 5:00 p.m., **October 19**.

**Committee Meetings:** Most standing and ad-hoc committees will hold meetings. CMS Members are encouraged to contact committee Chairs regarding any item for inclusion in committee agendas. Room assignments for all CMS committee meetings are in the hands of the Operations Manager in Ottawa.

**Luncheon Meeting of the Department Heads:** At the invitation of the Chair of the Department of Mathematics and Statistics, Queen's University, a luncheon meeting of the department chairs will be held on Monday, December 14, from 11:30 am to 1:30 pm at Clark's on King. Further details will be provided when available.



## Registration

**Payment Method:** Payment for preregistration may be made by cheque, or by VISA or MasterCard. Although registration fees are given in Canadian dollars, delegates may send cheques in US dollars by contacting their financial institution for the current exchange rate.

A preregistration form is included in this issue of the *CMS Notes* and is also available by contacting the CMS Executive Office, 577 King Edward, Suite 109, PO Box 450, Station A, Ottawa, Ontario CANADA K1N 6N5, Tel: 613-562-5702, FAX: 613-565-1539, Email: meetings@cms.math.ca. **Electronic pre-registration** is available on our Camel site at <http://camel.math.ca/CMS/Events/winter98>. This site also has the latest information on the meetings.

Please note that **payment must be received on or before November 15 in order to qualify for reduced rates.**

	Before Nov 15	After Nov 15
All fees include a free meeting lunch ticket		
CMS/AMS/MAA members with grants	\$260	\$340
CMS/AMS/MAA members without grants	130	170
Non-members with grants	390	505
Non-members without grants	195	255
One-day fee	130	170
Teachers, students, postdocs, retired, unemployed	95	125
Monday night Banquet	45	45

**Plenary Speakers, Prize Lecturers and Invited Special Session Speakers for the scientific and education programme:** These speakers should register using the special Registration Form for Speakers available from the Chair of the Scientific Programme Committee or from session organizers.

**Confirmation of Registration:** Those delegates preregistering before **December 1** will receive a confirmation of registration and receipt in the mail. Those preregistering after **December 1** will find their receipt in their registration packet which may be picked up at the Registration Desk on-site.

**Refund Policy:** Delegates wishing to cancel their registration must notify the Executive Office in writing before **December 7** to receive a refund less a \$40 processing fee. Those whose contributed papers have not been accepted will upon request be refunded at 100%.

**Tickets/badges/meeting programme:** All tickets, badges and meeting programmes will be included in the registration packet which may be picked up at the Registration Desk at the meeting site.

**On-site registration:** The Registration Desk will be open on Sunday, Monday and Tuesday from 8:00 a.m. to 5:00 p.m.

## Accommodation

It is recommended that those attending the conference book early to avoid disappointment. Blocks of rooms have been reserved at three different facilities and will be held until the dates given below. The Howard Johnson is adjacent to the Holiday Inn. The Ramada is within 5 minutes walking distance from either of these. Reservations not in by the dates given below will be on a request only, space available basis. Rates quoted are in Canadian dollars.

### Holiday Inn Kingston-Waterfront

1 Princess Street  
Kingston, Ontario  
CANADA K7L 1A1  
Check-in: 2:00 pm, Check-out: 11:00 am  
Reservation Deadline: **November 10, 1998**  
Rate: \$60.00 single/double occupancy  
Applicable taxes: 12% (including 7% GST)  
Phone: (613) 549-8400  
Reservations Fax: (613) 549-2014  
Toll-free reservations: 1-800 HOLIDAY  
Reservations Manager: Anna-Marie de Vos

### Howard Johnson Confederation Place Hotel

237 Ontario Street  
Kingston, Ontario  
CANADA K7L 2Z4  
Check-in: 2:00 pm, Check-out: 11:00 am  
Reservation Deadline: **November 13, 1998**  
Rate: \$55.00 single/double occupancy  
Applicable taxes: 12% (including 7% GST)  
Phone: (613) 549-6300  
Fax: (613) 549-1508  
Toll-free reservations: 1-888-825-4656

### Ramada Plaza Hotel Harbourfront Kingston

1 Johnson Street  
Kingston, Ontario  
CANADA K7L 5H7  
Check-in: 3:00 pm, Check-out: 11:00 am  
Reservation Deadline: **November 14, 1998**  
Rate: \$79.00 single/double occupancy  
Applicable taxes: 12% (including 7% GST)  
Phone: (613) 549-8100  
Fax: (613) 547-3241  
Toll-free reservations: 1-888-548-6726  
Note: The rooms have been held under the group block number 5649. Mention this number when making a reservation.

**Attendees must make their own reservations** by calling the above numbers or using the form included in the **September** issue of the *CMS Notes*. The conference rate is extended up to two days pre- and post- convention. Please mention that you are participating in the CMS Winter Meeting.

## Acknowledgements

The CMS wishes to thank the Centre de recherches mathématiques and The Fields Institute for their financial support of scientific sessions at this meeting.

The CMS wishes to acknowledge the contribution of the Meeting Committee in presenting exciting scientific, educational and social programmes. Thanks are also extended to

members of the host departments who have taken time from their regular duties to help out.

## Meeting Committee

*Meeting Directors:* Tony Geramita (Queen's) and David Wehlau (RMC), *Local Arrangements Committee:* Fady Alajaji (Queen's) and Leo Jonker (Queen's), *Algebraic Geometry:* P. Milman (Toronto), *Discrete Geometry:* Robert Erdahl (Queen's), Marjorie Senechal (Smith College), Walter Whiteley (York), *Education: Teaching and Learning Mathematics at University:* Morris Orzech and Grace Orzech (Queen's), *Extremal Combinatorics:* D. de Caen (Queen's), *Number Theory:* Ram Murty and Noriku Yui (Queen's), *Operator Algebras:* James Mingo (Queen's), *Probability Theory:* Miklos Csörge (Carleton), *Topology:* Eddy Campbell (Queen's), *Universal Algebra and Multiple-Valued Logic and Contributed Papers:* L. Haddad (RMC), *Graduate Stu-*

*dent Session:* David Gregory (Queen's), *Other members:* Monique Bouchard (CMS) – Ex-officio, Jean Fugere (RMC), Graham Wright (CMS) – Ex-officio.

## Items also published with this announcement

Registration Form  
Abstract Form - Contributed Papers  
Hotel Reservation Form - Insert

## In the next issue of the *CMS Notes*

Third Announcement  
Timetable - block schedule  
Information on child care  
Information on travel to Kingston and parking

## Réunion d'hiver 1998 de la SMC Université Queen's et Collège militaire royal Kingston (Ontario) du 13 au 15 décembre 1998

### Deuxième annonce

Au nom de l'Université Queen's et du Collège militaire royal, nous vous invitons chaleureusement à assister à la Réunion d'hiver 1998 de la SMC.

Nous aurons droit cette fois-ci à une Réunion exceptionnellement diversifiée. Au programme, pas moins de onze symposiums, diverses réunions et des allocutions plénières, notamment la conférence Coxeter-James et une conférence publique donnée par H.S.M. Coxeter, de l'Université de Toronto. Les communications portent sur la géométrie algébrique, la géométrie discrète, la combinatoire extrémale, la théorie des nombres, l'algèbre des opérateurs, la théorie des probabilités, la topologie, l'algèbre universelle et l'éducation. Il y aura aussi des communications libres ainsi que la séance habituelle pour étudiantes et étudiants diplômés.

Les activités se dérouleront du dimanche 13 décembre au mardi 15 décembre 1998, principalement à l'hôtel Holiday Inn Kingston Waterfront.

Les activités scientifiques auront lieu au Holiday Inn et au Howard Johnson Confederation Place, situé juste à côté du Holiday Inn.

## Conférenciers principaux

Miklos Csörge (Carleton)  
Henri Darmon (McGill)  
Z. Füredi (Illinois à Urbana / Inst. Hungarian Acad. Sci.)  
Donal O'Shea (Collège Mt. Holyoke).

## Conférences des récipiendaires de prix

La conférence Coxeter-James sera prononcée par Henri Darmon de l'Université McGill.

## Conférence publique

*Samedi 12 décembre, 20 h*

H.S.M. Coxeter, Université de Toronto

*The Descartes Circle Theorem and Fibonacci Numbers*

## Symposiums

À l'invitation du Comité des Réunions, des spécialistes aborderont en symposium les domaines suivants :

### *Géométrie algébrique*

(Org. : P. Milman, Université de Toronto)

Donal O'Shea (College Mt. Holyoke), Fedya Bogomolov (NYU Institut Courant), Askold Khovanskii (Univ. de Toronto), Jenia Shustin (Tel-Aviv Univ.), Yosef Yomdin (Institut Weizmann).

### *Géométrie discrète*

(Org. : Robert Erdahl, Université Queen's,  
Marjorie Senechal, Collège Smith,  
et Walter Whiteley, Université York).

Conférenciers à confirmer.

*Éducation**Cerner et surmonter les obstacles à l'enseignement et à l'apprentissage des mathématiques à l'université*(Org. : **Morris Orzech et Grace Orzech**,  
Université Queen's)

Donal O'Shea (College Mt. Holyoke) - conférencier principal, Ed Barbeau (Université de Toronto), Bernard Hodgson (Université Laval), Tom Rishel (Université Cornell), Martha Siegel (Université Towson), Morris Orzech (Université Queen's).

*Combinatoire extrême*(Org. : **D. de Caen**, Université Queen's)

Zoltan Füredi (Université de l'Illinois à Urbana et Math. Inst. Hungarian Acad. Sci.) - conférencier principal, Richard Anstee (UBC), Jason Brown (Dalhousie), Ralph Faudree (Memphis), Jerrold Griggs (South Carolina), Penny Haxell (Waterloo), David Fisher (Colorado), Felix Lazebnik (Delaware), Laszlo Székely (South Carolina), Bing Zhou (Trent).

*Théorie des nombres*(Org. : **Ram Murty et Noriko Yui**, Université Queen's)

Cette séance a reçu des fonds supplémentaires du Centre de recherches mathématiques.

Henri Darmon (McGill) - conférencier principal et conférencier Coxeter-James, Chantal David (Concordia), Jacek W. Fabrykowski (Manitoba), E. Goren (McGill), C. Greither (Laval), Hershy Kisilevsky (Concordia), Manfred Kolster (McMaster), A. Ledet (Queen's), Claude Levesque (Laval), Kumar Murty (Toronto), W. Nowak (Australia), Vladimir Platonov (Waterloo), Daniel Roy (Ottawa), Gary Walsh (Ottawa), Hugh Williams (Manitoba), Kenneth Williams (Carleton).

*Algèbre des opérateurs*(Org. : **James Mingo**, Université Queen's)

Ken Davidson (Waterloo), George Elliott (Toronto), Thierry Giordano (Ottawa), Andu Nica (Waterloo).

*Théorie des probabilités*(Org. : **Miklos Csörge**, Université Carleton)

Cette séance a reçu des fonds supplémentaires de l'Institut Fields.

Miklos Csörge (Carleton) - conférencier principal, Siva Athreya (Fields), M. Claude Belisle, Murray D. Burke, Colleen D. Cutler (Waterloo), Andre R. Dabrowski (Ottawa), Eric Derbez, Shui Feng (McMaster), René Ferland, Antonia

Foldes, Geneviève Gauthier, Christian Genest, Edit Gombay, Lajos Horvath, Gail Ivanoff (Ottawa), Mike Kouritzin (Alberta), Reg Kulperger (Western Ontario), Brenda MacGibbon, Neal Madras (York), Don L. McLeish (Waterloo), Majid Mojirsheibani, Bruno Remillard (Québec-Trois-Rivières), Jeffrey S. Rosenthal (Toronto), Tom Salisbury (York), Byron Schmuland (Alberta), Qi-Man Shao, Zhan Shi, Gordon Slade (McMaster), Chistopher G. Small (Waterloo), Barbara Szyszkowicz (Carleton), Jean Vaillancourt, Keith Worsle, Hao Yu, Ricardas Zitikis.

*Topologie*(Org. : **Eddy Campbell**, Université Queen's)

*Géométrie différentielle et analyse globale* (Org. : **Muang Min-Oo et McKenzie Wang**, Université McMaster).  
Christoph Boehm (McMaster), Jingyi Chen (MIT), Ailana Fraser (Stanford), W. Goldman (Maryland), Ross Niebergall (UNBC), P. Ryan (McMaster), John Toth (McGill), Patrice Sawyer (Laurentian), Miroslav Lovric (McMaster), Jeffrey Boland (McMaster), Alina Stancu (Institut Courant), Igor Belagradek (McMaster) Mike Gage (Rochester) Mohan Ramachandran (SUNY Buffalo).

*Théorie de l'homotopie* (Org. : **Lisa Langsetmo**, Université d'Ottawa et **Jim Shank**, Université Queen's). Conférenciers à confirmer.

*Topologie des ensembles* (Org. : **Juris Steprans et Steve Watson**, Université York). Conférenciers à confirmer.

*Topologie en basse dimension/Topologie symplectique* (Org.: **Steve Boyer**, UQAM), **Jacques Hurtubise**, McGill, CRM et **François Lalonde**, UQAM, CRM). Conférenciers à confirmer.

*Algèbre universelle et logique multivaluée*(Org. : **L. Haddad**, Collège militaire royal)

Conférenciers à confirmer.

*Communications libres*(Org. : **L. Haddad**, Collège militaire royal)

Nous lançons un appel de communications libres de 15 minutes. Nous encourageons particulièrement les étudiants diplômés à participer. Les résumés des communications devront répondre aux critères énumérés plus bas. Pour voir sa communication acceptée, l'auteur devra faire parvenir son résumé ainsi que son formulaire et ses droits d'inscription à la SMC **avant le 30 septembre 1998**.

*Séance pour les étudiants diplômés*(Org. : **David Gregory**, Université Queen's)

Une séance spéciale est prévue à l'intention des étudiants diplômés. Toute personne désireuse de participer à l'organisation de cette séance est priée de communiquer avec le directeur de Réunion à l'adresse suivante :

**md-w98@smc.math.ca**

## Envoi des résumés

Les titres des conférences présentés par les conférenciers principaux, les conférenciers récipiendaires de prix et les conférenciers invités aux séances scientifiques et sur l'éducation paraîtront dans le numéro de **novembre** des *Notes de la SMC*. Les titres des communications libres paraîtront dans le numéro de **décembre**. Tous les résumés paraîtront dans le programme de la Réunion ainsi que sur le serveur des Services électroniques mathématiques canadiens (CAMEL).

**Conférenciers principaux, conférenciers récipiendaires de prix et conférenciers invités aux séances scientifiques et sur l'éducation**, veuillez remettre à la SMC le résumé des communications selon les directives de l'organisateur du symposium.

Les résumés peuvent être transmis par courrier électronique (instructions ci-dessous) ou via le formulaire habituel de la SMC, que l'on peut obtenir des bureaux de la SMC (Ottawa) ou de l'organisateur du symposium. Adresser le tout à la coordonnatrice des résumés, Bureau administratif de la SMC, 577, avenue King Edward, C.P. 450, succursale A, Ottawa (Ontario), Canada K1N 6N5. **Le formulaire doit parvenir à la coordonnatrice au plus tard le 30 septembre 1998.**

**Communications libres.** Les résumés peuvent être transmis par courrier électronique suivant les directives ci-dessous ou via le formulaire habituel de la SMC, que l'on trouvera aux bureaux de la SMC (Ottawa) ou dans le numéro de **septembre** des *Notes*. Adresser le tout à la coordonnatrice des résumés, Bureau administratif de la SMC, 577, avenue King Edward, C.P. 450, succursale A, Ottawa (Ontario), Canada K1N 6N5. **Le formulaire doit parvenir à la coordonnatrice au plus tard le 30 septembre 1998.**

**Envoi des résumés par courrier électronique :** Seuls les résumés en format  $\text{T}_{\text{E}}\text{X}$  peuvent être acheminés de cette façon. Les fichiers doivent inclure le nom du conférencier, son affiliation, son adresse complète ainsi que le titre et le résumé de sa communication. On peut les transmettre à la coordonnatrice à l'adresse suivante : [resumes@smc.math.ca](mailto:resumes@smc.math.ca)

*Veuillez respecter les dates limites ci-dessus. Les résumés transmis par télécopieur ne seront pas acceptés.*

## Activités sociales

**Réception :** Une réception avec bar payant aura lieu le samedi, de 18 h à 20 h, pendant l'inscription en soirée au Holiday Inn Kingston Waterfront.

**Lunch :** Le lunch des participants à la Réunion se tiendra à l'hôtel Howard Johnson, le dimanche 13 décembre. Ce repas est compris dans tous les frais d'inscription.

**Banquet :** Il y aura un banquet au Collège militaire royal le lundi 14 décembre. Un bar payant sera ouvert avant le ban-

quet. Le prix des billets pour le banquet est de 45 \$ l'unité et comprend le vin ainsi que les taxes et les pourboires.

Si vous préférez un menu végétarien, vous devrez en faire la demande à l'avance. Veuillez indiquer vos préférences sur votre formulaire d'inscription.

**Pauses café :** Du café et des jus seront offerts pendant les pauses.

## Exposants

**Exposants :** Les kiosques seront ouverts aux heures indiquées dans le hall «Holidome du Holiday Inn. Le kiosque de la SMC restera ouvert durant toute la Réunion.

**Exposition conjointe :** On y présentera des livres et des produits de maisons d'édition et d'autres sociétés et organismes non représentés à la Réunion. On trouvera des bons de commande sur place. La chef des opérations les transmettra aux sociétés concernées après la Réunion. Les livres et autres produits qui seront présentés à cette exposition seront offerts à l'université locale.

**Comptoir d'adhésion et exposition de livres de la SMC:** Nous vous invitons à visiter le comptoir d'adhésion et l'exposition de livres de la SMC. Un représentant sera sur place de 9 h à 17 h tous les jours pour fournir des renseignements sur l'adhésion, les Réunions à venir, les publications et les autres activités de la Société.

**Kiosque de renseignements :** À la demande de nos membres, un kiosque de renseignements sera aménagé dans l'aire d'inscription. Veuillez envoyer une copie de votre annonce à la chef des opérations, SMC, 577, avenue King Edward, bureau 109, C.P. 450, succ. A, Ottawa (Ontario), Canada K1N 6N5. Téléc. : (613) 565-1539.

Toute annonce doit être approuvée au préalable. Les participants pourront apporter jusqu'à 100 copies de leur annonce. Il leur incombe de fournir eux-mêmes les copies et de récupérer celles qui seront restées sur la table avant 15 h le dernier jour de la Réunion; autrement, elles seront mises à la poubelle.

Il est interdit d'afficher des annonces dans l'aire d'inscription ou dans les salles de réunion. Il est également interdit d'en distribuer aux passants. Les annonces d'événements entrant en conflit avec le programme de la Réunion ne seront pas acceptées.

Le kiosque n'est pas destiné à promouvoir des biens et services achetables. Ceux qui désirent faire la promotion de tels produits doivent communiquer avec la chef des opérations pour obtenir des renseignements sur l'exposition conjointe.

## Séances de travail de la SMC

**Réunion du Comité exécutif :** Le Comité exécutif se réunira le vendredi 11 décembre, de 9 h à 15 h, au Holiday Inn Kingston Waterfront.

**Lunch du groupe de développement :** Les membres du groupe de développement, formé du Comité exécutif et des président(e)s des comités permanents, se réuniront le samedi 12 décembre, de 11 h à 13 h, au Holiday Inn Kingston Waterfront.

**Réunion du Conseil d'administration :** Les membres du Conseil d'administration de la Société se réuniront le samedi 12 décembre, de 13 h 30 à 18 h 30, au Holiday Inn Kingston Waterfront. Le Conseil est heureux d'inviter à sa réunion les présidents des comités permanents de la SMC et les représentants nommés de l'AMS et de la MAA.

**Assemblée générale :** L'assemblée générale de la Société aura lieu le dimanche 13 décembre, de 17 h 30 à 19 h, au Holiday Inn Kingston Waterfront. Tous les membres y sont invités.

**Ordres du jour et documentation :** Les ordres du jour et autres documents pour l'assemblée générale seront mis à la poste trois semaines avant la Réunion, soit le **23 novembre**.

**Avis de motion :** Conformément à la politique en vigueur, les avis de motion doivent être déposés au Bureau administratif de la Société **au moins huit semaines avant** l'assemblée à laquelle les motions seront étudiées.

Ils doivent porter le nom et la signature du motionnaire et du comotionnaire, qui doivent être membres en règle de la Société. Seuls les avis de motion reçus à l'adresse suivante avant 17 h le **19 octobre** seront retenus pour l'assemblée générale: Secrétaire de la SMC, Bureau administratif, 577, avenue King Edward, bureau 109, C.P. 450, succ. A, Ottawa (Ontario), Canada K1N 6N5.

**Réunions des comités:** La plupart des comités permanents et spéciaux organiseront une réunion. Les membres de la SMC désirant faire inscrire des points à l'ordre du jour sont priés de communiquer avec les présidents des comités. L'attribution des salles pour toutes les réunions des comités a été confiée à la chef des opérations à Ottawa.

**Lunch et réunion des chefs de département :** À l'invitation du directeur du département de mathématiques et de statistique de l'Université Queen's, une réunion des chefs de département aura lieu le lundi 14 décembre, de 11 h 30 à 13 h 30, au restaurant «Clark's on King». De plus amples renseignements seront fournis dans un prochain numéro.

## Préinscription

**Modes de paiement:** Les frais (en devises canadiennes) sont payables par chèque, VISA ou MasterCard. Si l'on préfère payer en devises américaines, il faut communiquer avec son institution financière pour connaître le taux de change en vigueur.

Vous trouverez le formulaire de préinscription dans le présent numéro des *Notes de la SMC*. On peut également se le procurer auprès du bureau administratif de la SMC, au 577, avenue King Edward, Bureau 109, C.P. 450, Succursale

A, Ottawa (Ontario) Canada K1N 6N5, tél. : 613-562-5702, télécopieur : 613-565-1539, courrier électronique :

reunions@smc.math.ca.

Vous pouvez aussi **vous inscrire par courrier électronique** en consultant la page d'accueil de Camel :

<http://camel.math.ca/CMS/Events/winter98/>.

Vous trouverez également sur ce site les renseignements les plus à jour sur les Réunions.

**Le paiement doit nous parvenir au plus tard le 15 novembre pour que vous ayez droit aux tarifs réduits.**

Un billet pour le lunch de dimanche est compris dans tous les frais d'inscription	avant le 15 nov	après le 15 nov
Membres SMC/AMS/MAA avec subvention	260\$	340\$
Membres SMC/AMS/MAA sans subvention	130	170
Non-membres avec subvention	390	505
Non-membres sans subvention	195	255
Frais pour une journée	130	170
Enseignant(e)s, étudiant(e)s, postdocs, retraités, chômeurs	95	125
Banquet (lundi)	45	45

**Conférenciers principaux, conférenciers récipiendaires de prix et conférenciers invités aux séances scientifiques et sur l'éducation :** Utiliser le formulaire d'inscription pour conférenciers, que l'on peut se procurer auprès du président du Comité scientifique ou des organisateurs de séances.

**Confirmation d'inscription :** Ceux et celles qui s'inscriront avant le **1<sup>er</sup> décembre** recevront par la poste leur confirmation d'inscription et leur reçu. Ceux et celles qui s'inscriront après le **1<sup>er</sup> décembre** trouveront leur reçu dans la trousse d'inscription qu'ils pourront prendre au comptoir d'inscription sur les lieux de la Réunion.

**Politique de remboursement :** Les participants qui désirent annuler leur inscription doivent en aviser le bureau administratif par écrit avant le **7 décembre** pour se voir rembourser leurs frais d'inscription (moins 40 \$). Les participants dont les communications libres n'auront pas été acceptées seront remboursés intégralement, s'ils en font la demande.

**Billets, badges, programmes de la Réunion :** Vous trouverez les billets, badges et programmes pour la Réunion dans la trousse d'inscription que vous pourrez prendre sur place, au comptoir d'inscription.

**Inscription sur place :** Le comptoir d'inscription sera ouvert le dimanche, le lundi et le mardi, de 8 h à 17 h.

## Hébergement

On recommande aux participants de faire leurs réservations longtemps à l'avance par mesure de précaution. Des chambres ont été réservées collectivement aux trois endroits ci-dessous jusqu'aux dates indiquées.

Le Howard Johnson est situé juste à côté du Holiday Inn, et le Ramada n'est qu'à cinq minutes de marche de ces deux hôtels.

Après ces dates, il faudra s'occuper soi-même de ses réservations, s'il reste des chambres. Les tarifs sont en devises canadiennes.

#### **Holiday Inn Kingston Waterfront**

1, rue Princess, Kingston (Ontario) CANADA K7L 1A1

Heure d'arrivée : 14 h, heure de départ : 11 h

Réserver le **10 novembre** au plus tard

Tarif à la nuitée : 60 \$ 1 ou 2 personnes

Taxes applicables : 12 %, y compris la TPS de 7 %

Tél. : (613) 549-8400

Réservations par télécopieur : (613) 549-2014

Réservations : 1-800-HOLIDAY (sans frais)

Responsable des réservations : Anna-Marie de Vos

#### **L'hôtel Howard Johnson Confederation Place**

237, rue Ontario, Kingston (Ontario) CANADA K2L 2Z4

Heure d'arrivée : 14 h, heure de départ : 11 h

Réserver le **13 novembre** au plus tard

Tarif à la nuitée : 55 \$ 1 ou 2 personnes

Taxes applicables : 12 %, y compris la TPS de 7 %

Tél. : (613) 549-6300, télécopieur : (613) 549-1508

Réservations : 1-888-825-4656 (sans frais)

#### **Ramada Plaza Hotel Harbourfront Kingston**

1, rue Johnson, Kingston (Ontario) CANADA K7L 5H7

Heure d'arrivée : 15 h, heure de départ : 11 h

Réserver le **14 novembre** au plus tard

Tarif à la nuitée : 79 \$ 1 ou 2 personnes

Taxes applicables : 12 %, y compris la TPS de 7 %

Tél. : (613) 549-8100, télécopieur : (613) 547-3241

Réservations : 1-888-548-6726 (sans frais)

N.B. : Les chambres sont retenues collectivement sous le numéro 5649.

Prière de mentionner ce numéro lorsque vous faites votre réservation.

**Vous êtes priés de faire vos propres réservations**, en composant l'un des numéros ci-dessus ou en utilisant le formulaire de réservation publié dans le numéro de **septembre** des *Notes de la SMC*. Le tarif préférentiel vaut aussi pour les deux jours qui précèdent et qui suivent le congrès. Veuillez mentionner que vous participerez à la Réunion d'hiver de la SMC.

## **Remerciements**

La SMC désire remercier le Centre de recherches mathématiques et l'Institut Fields d'avoir contribué fi-

nancièrement aux séances scientifiques de la Réunion.

La SMC tient à remercier le Comité des Réunions, qui a contribué à l'organisation des activités scientifiques et sur l'éducation, ainsi que des activités sociales. Merci également à toutes les personnes des départements hôtes qui ont empiété sur leurs heures de travail habituelles pour nous venir en aide.

## **Comité des Réunions**

*Directeurs de la Réunion* : Tony Geramita (Queen's) et David Wehlauf (CMR), *Président du Comité local* : Fady Alajaji (Queen's) et Leo Jonker (Queen's), *Géométrie algébrique* : P. Milman (Toronto), *Géométrie discrète* : Robert Erdahl (Queen's), Marjorie Senechal (Smith College), Walter Whiteley (York), *Éducation* : *Cerner et surmonter les obstacles à l'enseignement et à l'apprentissage des mathématiques à l'université* : Morris Orzech et Grace Orzech (Queen's), *Combinatoire extrémale* : D. de Caen (Queen's), *Théorie des nombres* : Ram Murty et Noriku Yui (Queen's), *Algèbre des opérateurs* : James Mingo (Queen's), *Théorie des probabilités* : Miklos Csörge (Carleton), *Topologie* : Eddy Campbell (Queen's), *Algèbre universelle et logique multivaluée et Communications libres* : L. Haddad (CMR), *Étudiants diplômés* : David Gregory (Queen's), *Autres membres* : Monique Bouchard (SMC) – d'office, Jean Fugere (CMR), Graham Wright (SMC) – d'office.

## **Documents publiés avec cette annonce**

Formulaire d'inscription

Formulaire de résumé - Communications libres

Formulaire de réservation d'hôtels

## **Dans le prochain numéro des *Notes de la SMC* :**

Troisième annonce

Horaire

Détails sur le service de garde

Détails sur les déplacements et le stationnement

### **CMS 50th Anniversary Books**

Delegates to the 1998 Winter Meeting can purchase the 50th Anniversary Books at a special price of \$30 per book or \$75 for the set of three. Ordering details are on the Registration form.

### **Livres du 50e anniversaire de la SMC**

Les délégués au Réunion d'hiver de la SMC de 1998 peuvent acheter les livres du 50e anniversaire de la SMC pour un prix spécial de 30\$ pour une livre ou 75\$ pour toutes les trois. Pour plus de détails voir la formulaire d'inscription.

## **ABSTRACT FORM - CONTRIBUTED PAPERS**

### **1998 Canadian Mathematical Society Winter Meeting**

Abstracts for Contributed Papers will be published in the meeting programme. CMS policy requires that all contributed paper speakers complete and return this form to be received no later than **September 31**. All abstracts will also be available on the Canadian Mathematical Electronic Services (Camel) at

**<http://camel.math.ca/CMS/Events/winter98/>**

**Mailing address:**

CMS Winter Meeting 1998, CMS Executive Office  
577 King Edward, P.O. Box 450, Station A, Ottawa, ON K1N 6N5

**Electronic mail:**

**[abstracts@cms.math.ca](mailto:abstracts@cms.math.ca)**

Your abstract may be submitted electronically using  $\text{\TeX}$ . Otherwise, please type your abstract in the box below using the equivalent of a 12 point font size. The heading containing the author's name, address, e-mail address, and title of the talk is indented one half inch.

For convenience, the following information is provided in a sample format:

LASTNAME, FIRSTNAME, University name and address, email address

*The title of the talk would go here*

The author's name should be capitalized and the title of the paper should be in italics. Your cooperation in submitting your abstract according to the guidelines specified is essential both to the organizers of the meeting and to the Editors of the *CMS Notes*.

**Abstract forms for contributed papers must be accompanied by a registration form and the appropriate fees.**

Please type abstract below this line.

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## FORMULAIRE DE RÉSUMÉ - COMMUNICATIONS LIBRES

### Société mathématique du Canada, Réunion d'hiver 1998

Les résumés de communications libres seront publiés dans le Programme de la Réunion. La politique de la SMC exige que les conférenciers complètent et retournent ce formulaire pour qu'il parvienne à l'adresse ci-dessous avant le **31 septembre**. Tous les résumés seront disponibles sur le Canadian Mathematical Electronic Services (Camel) à l'adresse suivante <http://camel.math.ca/CMS/Events/winter98/>.

**Adresse:**

Réunion d'hiver 1998, Bureau administratif de la SMC  
577 King Edward, C.P. 450, Succ. A, Ottawa (Ontario) K1N 6N5

**Adresse électronique:**

[resumes@smc.math.ca](mailto:resumes@smc.math.ca)

Veillez envoyer votre résumé par courrier électronique en utilisant  $\text{\TeX}$ . Si cela n'est pas possible, veuillez dactylographier le résumé ci-dessous utilisant l'équivalent d'un caractère de 12 points. L'en-tête contenant le nom de l'auteur, son adresse, son adresse électronique et le titre de la conférence est tap enretrait d'un demi-pouce.

NOM DE L'AUTEUR, Nom de l'université, adresse de l'université, adresse électronique

*Titre de la conférence*

Le nom de l'auteur devrait apparaître en lettres majuscules et le titre de la conférence devrait apparaître en lettres italics. Il est crucial tant pour les organisateurs que pour les rédacteurs des *Notes* que vous vous conformiez aux directives fournies lors de la soumission des résumés.

**Les formulaires de résumé pour les communications libres doivent être accompagnés d'un formulaire d'inscription et des frais d'inscription.**

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**REGISTRATION FORM - CMS WINTER MEETING 1998**  
**December 13-15 - Queen's University and Royal Military College, Kingston, Ontario**

**Send completed form with payment to:**

Canadian Mathematical Society, 577 King Edward, POB 450, Station A, Ottawa, Ontario, CANADA K1N 6N5  
 Phone: 613-562-5702, FAX 613-565-1539 (Please use the FAX # for credit card payments only.)

**Important deadlines:** Preregistration for reduced rates      payment must arrive by November 15  
 Hotel Reservations      must arrive by November 10 (Holiday Inn-Waterfront)  
    must arrive by November 13 (Howard Johnson Hotel)  
    must arrive by November 14 (Ramada Plaza Hotel)  
 Cancellation (refund less \$40 penalty)      must arrive by December 7

Organizers, Plenary Speakers, Prize Lecturers, and Invited Special Session Speakers should use the special registration form provided by the Meeting Director.			
Name:			
Institution (for badge):			
Mailing Address:		Voluntary Information: <input type="checkbox"/> Male <input type="checkbox"/> Female	
Telephone:		Email:	
Arrival date:		Departure date:	
PLEASE MAKE YOUR HOTEL RESERVATIONS DIRECTLY WITH THE HOTEL			
I will be reserving at	<input type="checkbox"/> Holiday Inn-Waterfront	<input type="checkbox"/> Howard Johnson	<input type="checkbox"/> Ramada Plaza Hotel
	<input type="checkbox"/> Another hotel/motel	<input type="checkbox"/> I will require no housing	
Special dietary needs:	<input type="checkbox"/> Kosher	<input type="checkbox"/> Vegetarian	<input type="checkbox"/> Other - specify:
<input type="checkbox"/> I would like to deliver a contributed paper. My abstract <input type="checkbox"/> is enclosed <input type="checkbox"/> will follow <input type="checkbox"/> sent by e-mail			
I am a member of:	<input type="checkbox"/> CMS <input type="checkbox"/> CAIMS	<input type="checkbox"/> SSC <input type="checkbox"/> AMS	<input type="checkbox"/> MAA
(check all that apply)	<input type="checkbox"/> University professor	<input type="checkbox"/> Elementary teacher	<input type="checkbox"/> High school teacher
	<input type="checkbox"/> College teacher	<input type="checkbox"/> CEGEP teacher	<input type="checkbox"/> Student
	<input type="checkbox"/> Postdoctoral fellow	<input type="checkbox"/> Retired	<input type="checkbox"/> Unemployed
PLEASE INDICATE WHICH SESSION(S) YOU MIGHT BE ATTENDING			
<input type="checkbox"/> Algebraic Geometry	<input type="checkbox"/> Discrete Geometry	<input type="checkbox"/> Education Session	<input type="checkbox"/> Extremal Combinatorics
<input type="checkbox"/> Number Theory	<input type="checkbox"/> Operator Algebras	<input type="checkbox"/> Probability Theory	<input type="checkbox"/> Topology-Global Analysis
<input type="checkbox"/> Topology-Homotopy Theory	<input type="checkbox"/> Topology-Set Theoretic	<input type="checkbox"/> Topology-Symplectic	<input type="checkbox"/> Universal Algebra/M-V Logic
		<input type="checkbox"/> Graduate Seminar	<input type="checkbox"/> Contributed Papers

All categories include a free ticket to the Sunday Luncheon	Before November 15	After November 15
CMS/AMS/MAA members with grants	\$260	\$340
CMS/AMS/MAA members without grants	130	170
Non-members with grants	390	505
Non-members without grants	195	255
One-day fee	130	170
Teachers/students/postdocs/retired/unemployed	95	125
Monday night Banquet	45	45
50th Anniversary Series - Volume <input type="checkbox"/> 1, <input type="checkbox"/> 2 or <input type="checkbox"/> 3 (GST included)	30	30
50th Anniversary Series - 3 volume set (GST included)	75	75

REGISTRATION: \$	BQT TICKETS =	BOOKS =	TOTAL
Method of Payment: <input type="checkbox"/> Cheque (payable to CMS) <input type="checkbox"/> VISA <input type="checkbox"/> Master Card <input type="checkbox"/> Purchase Order (attached)			

Credit Card #	Expiry:
If this is your credit card, please print your name as it appears on the credit card and sign your name. If this is not your credit card, please print holder's name as it appears on the credit card and have the card holder sign.	
Print:	Signature:

**FORMULAIRE D'INSCRIPTION - RÉUNION D'HIVER DE LA SMC 1998**  
**13-15 décembre - Université Queen's et Collège militaire royal - Kingston, Ontario**

**Veillez envoyer ce formulaire et votre paiement à:**

Société mathématique du Canada, 577 King Edward, CP 450, Succursale A, Ottawa, Ontario, CANADA K1N 6N5  
 Téléphone: (613) 562-5702, Télécopieur: (613) 565-1539 (FAX pour paiements par cartes de crédit seulement.)

**Dates importantes:** Préinscription à prix réduit 15 novembre  
 Réservations d'hôtel 10 novembre (Holiday Inn-Waterfront)  
 13 novembre (Howard Johnson Hotel)  
 14 novembre (Ramada Plaza Hotel)  
 Annulation - Préinscription (remboursement moins 40\$) 7 décembre

Organisateurs et Conférenciers récipiendaires de prix, principaux, ou invités doivent utiliser le formulaire d'inscription distribué par le Directeur de la Réunion.			
Nom:			
Institution (pour le "badge"):			
Adresse postale:		Information volontaire: <input type="checkbox"/> Homme <input type="checkbox"/> Femme	
Téléphone:		Courier él:	
Date d'arrivée:		Date de départ:	
<b>S.V.P. ENVOYEZ VOTRE RESERVATION DIRECTEMENT À L'HOTEL</b>			
Je ferai ma réservation au	<input type="checkbox"/> Holiday Inn-Waterfront	<input type="checkbox"/> Howard Johnson	<input type="checkbox"/> Ramada Plaza Hotel
	<input type="checkbox"/> Un autre hôtel/motel	<input type="checkbox"/> Pas d'hébergement	
Diètes spéciales	<input type="checkbox"/> Kosher	<input type="checkbox"/> Végétarien	<input type="checkbox"/> Autre - préciser:
<input type="checkbox"/> Jaimerais envoyer une communication libre. Mon résumé <input type="checkbox"/> est inclus <input type="checkbox"/> suivra <input type="checkbox"/> suivra par e-mail			
Je suis membre de:	<input type="checkbox"/> la SMC	<input type="checkbox"/> SCMAI	<input type="checkbox"/> la SSC <input type="checkbox"/> l'AMS <input type="checkbox"/> MAA
(indiquer ceux qui applique)	<input type="checkbox"/> Professeur d'université	<input type="checkbox"/> Enseignant - primaire	<input type="checkbox"/> Enseignant - secondaire
	<input type="checkbox"/> Enseignant - Collège	<input type="checkbox"/> Enseignant - CEGEP	<input type="checkbox"/> étudiant(e)
	<input type="checkbox"/> Postdoc	<input type="checkbox"/> Retraité	<input type="checkbox"/> Chômeur
<b>VEUILLEZ INDIQUER À QUELLE(S) SÉANCE(S) VOUS PARTICIPEREZ</b>			
<input type="checkbox"/> Géométrie algébrique	<input type="checkbox"/> Géométrie discrète	<input type="checkbox"/> Éducation	<input type="checkbox"/> Combinatoires extrême
<input type="checkbox"/> Théorie des nombres	<input type="checkbox"/> Algèbre d'opérateurs	<input type="checkbox"/> Théorie des probabilités	<input type="checkbox"/> Topologie-analyse globale
<input type="checkbox"/> Top.-théorie de l'homotopie	<input type="checkbox"/> Topologie des ensembles	<input type="checkbox"/> Topologie symplectique	<input type="checkbox"/> Algèbre universelle/logique m-v
		<input type="checkbox"/> Étudiants diplômés	<input type="checkbox"/> Communications libres

Toutes les inscriptions comprenant un billet pour le lunch du dimanche.	Avant le 15 novembre	Après le 15 novembre
Membres SMC/AMS/MAA avec subvention	260 \$	340 \$
Membres SMC/AMS/MAA sans subvention	130	170
Non-membres avec subvention	390	505
Non-membres sans subvention	195	255
Frais d'une journée	130	170
Enseignant(e)s, étudiants, postdocs, retraités, chômeurs	95	125
Banquet du lundi	45	45
Collection du 50e anniversaire - Volume <input type="checkbox"/> 1, <input type="checkbox"/> 2 ou <input type="checkbox"/> 3 (TPS inclus)	30	30
Collection du 50e anniversaire - ensemble de 3 volumes (TPS inclus)	75	75

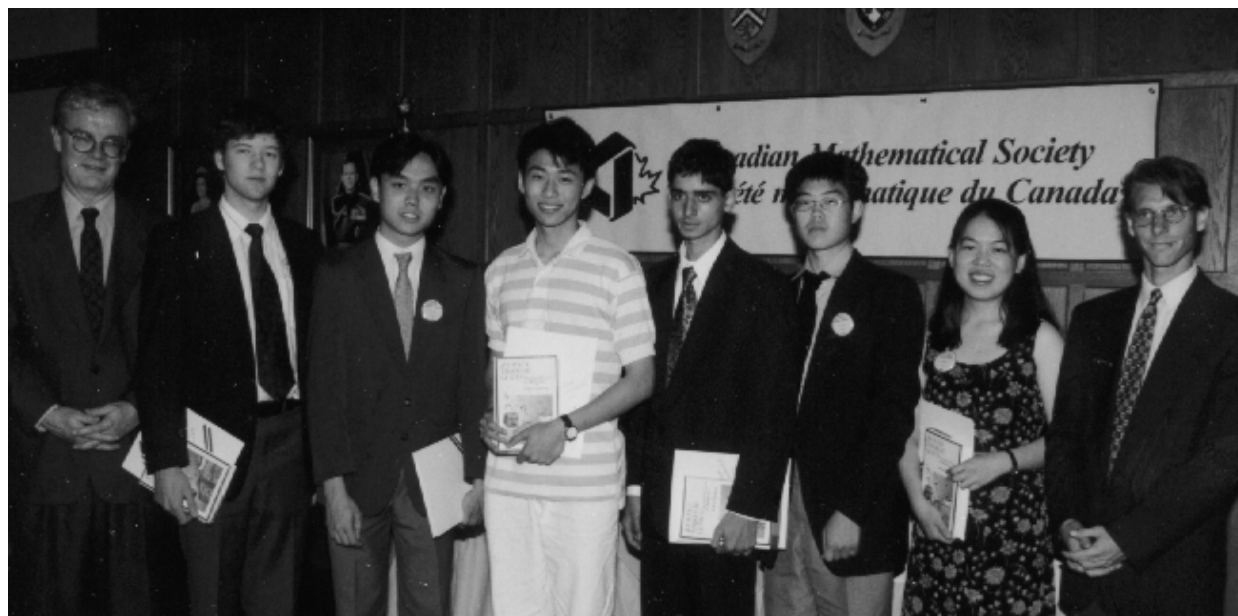
INSCRIPTION: \$	BILLETS =	LIVRES =	TOTALE
Méthodes de paiement: <input type="checkbox"/> Chèque (à l'ordre de la SMC) <input type="checkbox"/> VISA <input type="checkbox"/> Master Card <input type="checkbox"/> Bon de commande			

Carte de crédit #:	Date d'expiration:
Si vous utilisez votre carte de crédit, veuillez inscrire votre nom (tel qu'il paraît sur la carte) en lettres moulées et signer. Si vous utilisez une autre carte, veuillez inscrire le nom du détenteur (tel qu'il paraît sur la carte) en lettres moulées et faire signer le détenteur de la carte.	
Lettres moulées:	Signature:

## 30th Canadian Mathematical Olympiad

by Daryl Tingley, Chair

Canadian Mathematical Olympiad Committee



*CMO Prize winners with sponsors (left to right): Richard Kane, Dale Whitmore, Adrian Tang, Xin Huang, Ahmad Fahim, Keon Choi, Yin (Jessie) Lei, Darren Lalonde*

The 30th (1998) Canadian Mathematical Olympiad (CMO) was written on April 1, 1998, by 91 competitors from 52 schools in seven Canadian provinces. One competitor from Presentation College in Trinidad, who had received a high score on the Canadian Open Mathematical Challenge, was invited to participate as an unofficial contestant.

The prize winners of the CMO are as follows. First prize went to Adrian Chan from Upper Canada College, Ontario. He received \$2000 and the Sun Life Cup from Sun Life of Canada. Second prize went to Adrian Birka from Lakeshore Catholic High School, Ontario. He received \$1500 from Pratt & Whitney Canada. Third prize went to Jimmy Chui from Earl Haig S.S., Ontario. He received \$1000 from Alberta Education. Eight students earned an honourable mention for which they received \$500 from the CMS. They are Fahim Ahmad

(The Woodlands S.S., Ontario), David Arthur (Upper Canada College, Ontario), Keon Choi (A.Y. Jackson S.S., Ontario), Xin Huang (Central Peel S.S., Ontario), Zion Kwok (Eric Hamber S.S., British Columbia), Yin Lei (Vincent Massey S.S., Ontario), Adrian Tang (Albert Campbell C.I., Ontario), and Dale Whitmore (Prince of Wales Collegiate, Newfoundland). One other student, Chen He (Columbia International Collegiate, Ontario), earned honourable mention, but was not eligible for a cash prize. In addition to cash prizes, all of the above students received books and/or software from either Nelson Canada or John Wiley and Sons and a year's subscription to *Crux Mathematicorum* with *Mathematical Mayhem* from the CMS.

An invitation to write the CMO is itself a great achievement and so deserves recognition. Most students who were invited to write the 1998 CMO were given a copy of

the book *The Canadian Mathematical Olympiad: 1969 - 1993* and all were given participation certificates.

The concluding event of the 1998 CMO was the Awards Banquet, held at Renison College on the campus of the University of Waterloo, Tuesday, June 16. About 100 people attended the banquet including 65 students from the Canadian Mathematics Competitions Seminar held at the University of Waterloo. Most of the CMO prize winners were among this group. Representing the Canadian Mathematical Society were Richard Kane (President) and Graham Wright (Executive Director).

Stuart Martin of Sun Life of Canada, presented the Sun Life Cup and accompanying cheque to Adrian Chan. Other cheques and certificates were presented by Richard Kane. Software and books donated by Nelson Canada were presented by Tim Sellers, and books donated by John Wi-

ley and Sons were presented by Darren Lalonde.

Brief reports were given on other Mathematics contests during the Banquet. Ron Scoins reported on the 1997 Canadian Open Math Challenge. A number of the top students were present. Ed Barbeau (who runs the Correspondence Training Program) reported on the performance of Canadians on the United States of America Mathematical Olympiad (Canadians are not eligible for prizes) and

on the Asian Pacific Mathematical Olympiad. The top three Canadian students on the USAMO were (in order) Adrian Chan, Jimmy Chui and Mihaela Enăchescu. On the APMO, the top three were (in order) Adrian Tang, Michaela Enăchescu and Adrian Chan.

The Canadian International Olympiad team of Adrian Birka, Adrian Chan, Jimmy Chui, Mihaela Enăchescu, Yin (Jessie) Lei and Adrian Tang were introduced by Professor Chris Small, the Team Leader.

The continuing support by corporate and government sponsors and by the CMS membership is a great source of encouragement to all of us directly involved with the Society's competition activities. Of course, the greatest source of encouragement is seeing students perform at such an incredibly high level.

As Chair of the CMO Committee, I would like to give my sincerest thanks to all those involved in the 1998 CMO.

## CALL FOR NOMINATIONS / APPEL DE CANDIDATURES

Editors-in-Chief

CMS Advanced Books in Mathematics

Rédacteurs-en-Chef

Les Livres Avancés en Mathématiques de la SMC

The term of office of the present Editors-in-chief of the *CMS Advanced Books in Mathematics* will end in December 1999. The Publications Committee of the Canadian Mathematical Society now invites applications for the next Editor(s)-in-chief to serve for a five year term.

Applications should consist of a formal letter of application and include the following:

- A curriculum vitae
- An statement of views on the publication indicating if any changes of direction or policy are intended.

The Publications Committee will communicate its recommendation to the Executive Committee of the CMS by April 1999. Members of the mathematical community are welcome to submit their opinions on the series.

Applications with supporting material or comments should be sent to the address below.

The deadline for receipt of applications is **November 15, 1998**.

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Le mandat des rédacteurs-en-chef de la série *Les livres*

*avancés en mathématiques de la SMC* prendra fin le 31 décembre 1999.

Le Comité des publications de la Société mathématiques du Canada sollicite des mises en candidature pour les prochains rédacteurs-en-chef pour un mandat de cinq ans.

Les mises en candidature doivent inclure une lettre formelle et les éléments suivants:

- Un curriculum vitae
- L'expression de votre opinion sur la publication indiquant si des changements de direction ou de politiques sont envisagés.

Le Comité des publications transmettra ses recommandations au Comité exécutif de la SMC avant le fin d'avril 1999. Les commentaires de la communauté mathématique au sujet de cette sélection sont bienvenus.

Les mises en candidature, avec matériel à l'appui, et/ou commentaires devrait être acheminés à l'adresse ci-dessous.

L'échéance pour la reception des mises en candidature est le **15 novembre 1998**.

Dr. James A. Mingo

Chair/Président

Publications Committee / Comité des publications

Department of Mathematics and Statistics

Queen's University

Kingston, Ontario, K7L 3N6

**THE UNIVERSITY OF NEW BRUNSWICK, Fredericton**  
**Department of Mathematics and Statistics**  
<http://www.math.unb.ca/>

Invites applications for a tenure-stream position at the Assistant-Professor level, effective July 1, 1999, subject to budgetary approval. Candidates are expected to have a PhD in analysis, applied mathematics or mathematical physics. Exceptional candidates from other areas of mathematics will also be considered. Applicants should have a proven record of research and successful experience in teaching. Preference will be given to candidates whose expertise could enable them to collaborate on research with at least one current member of the Department. Salary will depend on the candidate's qualifications.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. The University of New Brunswick is committed to the principle of employment equity.

Applicants should provide their CVs and descriptions of their research and teaching interests, and arrange for three letters of reference to be sent. Application materials should be directed by e-mail, fax or post to:

**Dr. Jon Thompson, Chair**  
**Department of Mathematics & Statistics**  
**University of New Brunswick**  
**P. O. Box 4400**  
**Fredericton, N.B., E3B 5A3**  
**e-mail: dept@math.unb.ca**  
**FAX: 506-453-4705**

The deadline for receipt of applications is **November 16, 1998**.

## MATH CONNECTION

### News from Departments

**University of British Columbia:** Gordon Slade has been appointed Professor effective July 1, 1999. Changfeng Gui has been promoted to Associate Professor with tenure. Richard Anstee, Anthony Peirce and Michael Ward have been promoted to full Professor.

Roy Westwick has retired effective June 30, 1998. Erhard Luft will retire effective December 31, 1998

**Dalhousie University:** Richard Nowakowski has been appointed Chair of the department of Mathematics, Statistics and Comp.Sci. effective July 1, 1998. Jeannette Janssen (Combinatorics) and Ed Susko (Statistics) have been appointed Assistant Professors, effective July 1, 1998. Robert Milson (Diff. Eqns.) has been appointed Assistant Professor, effective January 1, 1999.

**St. Mary's University:** Pawan Lingras (Comp.Sci.) has been appointed Associate Professor, effective Septem-

ber 1, 1998. Stavros Konstantinidis (Comp. Sci.) has been appointed Assistant Professor, effective August 1, 1998. Larry Hughes has resigned effective July 17, 1998. Robert Kruse has retired effective August 31, 1998.

The APICS Math Days will be held in conjunction with the AARMS Annual Conference and the APICS Comp. Sci. Conference, October 16-18, 1998. e-mail for further information: Robert.Dawson@StMarys.ca

**University of Manitoba:** The former Department of Mathematics and Astronomy and the Department of Applied Mathematics merged at the beginning of July. R. G. Woods has been appointed as the first Head of the new Department.

Several members retire during the present year. D. M. Dowling, H. C. Finlayson, and M. C. Rayburn retire at the end of August, and J. P. McClure and R. W. Quackenbush retire at the end of December.

**University of Prince Edward Island:**

Appointments: Farid O. Farid (Math) and David LeBlanc (Comp. Sci.). Jim Ronan has retired from the Mathematics Department and Shaowen Song has resigned his position in Computing Science.

**University of Victoria:** Dr. Julie Zhou (Statistics) and Dr. Roderick Edwards (Applied Mathematics, Neural Networks) have been appointed assistant professors. Dr. Roger Davidson has retired.

**University of Alberta:**

Promotions: A. Pianzola (Professor: July 1, 1997); M. Shirvani (Professor: July 1, 1998).

Appointments: M.A. Kouritzin (Associate Professor: July 1, 1997); J.C. Bowman (Associate Professor: July 15, 1997); B.R. Sutherland (Assistant Professor: September 1, 1997); J.F. Carriere (Site Director, Pacific Institute for the Mathematical Sciences: July 1, 1998); G. de Vries (Assistant Professor: July 1, 1998); T.J. Gannon (Associate Professor: July 1, 1998);

P.D. Minev (Associate Professor: August 1, 1998).

Retirements: V. Zizler (Retirement: June 30, 1997).

Awards & Distinctions: A.R. Weiss, F.R.S.C.; N. Tomczak-Jaegermann (45-minute lecture: IMU); R.V. Moody (1998 Prix CRM/Fields Institute Prize); B.N. Allison (1997

Rutherford Award for Excellence in Undergraduate Teaching); J.W. Macki (1998 Rutherford Award for Excellence in Undergraduate Teaching).

Conference & Special Events: A.T.M. Lau/L.W. Marcoux (Organizers: Annual Canadian Operator Theory and Operator Algebra Symposium, May 1998, Edmonton, Alberta; J.D.

Lewis (NATO ASI Director: Conference on the Arithmetic and Geometry of Algebraic Cycles, June 7-19, 1998, Banff, Alberta; P.L. Antonelli/D. Hrimiuc/B. Lackey (Organizers: International Conference on Finsler and Lagrange Geometry and its Applications: A Meeting of Minds, August 13-20, 1998, Edmonton, Alberta.

## International Conference on Valuation Theory and its Applications

This conference is dedicated to PAULO RIBENBOIM, in recognition of his extensive contributions to the subject.

**PLACE AND DATES:** University of Saskatchewan (on Campus/Conference Center 30 km south of town) one week to 10 days in July-August 1999.

**SCIENTIFIC AND PROGRAM COMMITTEE:** Hans Brungs (University of Alberta), Barry Green (University of Stellenbosch), Alexander Prestel (Universitaet Konstanz), Sibylla Priess-Crampe (Universitaet München), Mark Spivakovsky (University of Toronto) and Bernard Teissier (Ecole Normale Supérieure),

**ORGANIZING COMMITTEE:** Andrew Carson, Franz-Viktor Kuhlmann, Salma Kuhlmann, Murray Marshall (University of Saskatchewan), Deirdre Haskell (College of the Holy Cross), and Hans Schoutens (Wesleyan University).

The conference is intended to cover recent developments in valuation theory and its applications such as: algebraic geometry (especially local uniformization), model theory of valued fields (especially in characteristic  $p$ ), real algebraic geometry (and quadratic forms),  $\mathfrak{o}$ -minimal expansions of the reals (Hardy fields), Galois theory, valued function fields, non-archimedean analysis, function field arithmetic, non-commutative valuation theory, ultrametric spaces.

The intended audience includes everybody who has some interest in valuation theory, whether expert or not. The con-

ference is intended to bring together experts in the various areas of application and to increase the interaction between these areas. But at the same time it is intended to introduce non-experts to the principles and results of valuation theory, in particular if they are coming from areas of mathematics in which valuation theory has recently witnessed important contributions (e.g., algebraic geometry, Galois theory, analysis) or in which the role of valuation theory still has to be determined (e.g.,  $C^*$ -algebras).

There will be a number of introductory and survey talks and, if interest is sufficient and funding allows, 2 or 3 days will be devoted to mini-courses (designed mainly for graduate students and non-experts) before the start of the conference and to research workshops (on selected topics) following the conference.

### VALUATION HOME PAGE:

<http://math.usask.ca/fvk/Valth.html>

**HOW TO APPLY:** Contact one of the local organizing committee by e-mail

[fvk@math.usask.ca](mailto:fvk@math.usask.ca), [skuhlman@math.usask.ca](mailto:skuhlman@math.usask.ca)  
[marshall@math.usask.ca](mailto:marshall@math.usask.ca), [carson@math.usask.ca](mailto:carson@math.usask.ca)

or by regular mail at:

University of Saskatchewan  
 Department of Mathematics and Statistics  
 Saskatoon, SK., S7N 5E6

## CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

### OCTOBER 1998

**5–10** Workshop on Hydrodynamic Limits (Fields Institute)  
[probability@fields.utoronto.ca](mailto:probability@fields.utoronto.ca);

<http://www.math.yorku.ca/Probability/Fields.html>

**7–11** International Conference on Operator Theory and its Applications to Scientific and Industrial Problems

(Winnipeg, Manitoba) [insmath@cc.umanitoba.ca](mailto:insmath@cc.umanitoba.ca);

<http://www.iims.umanitoba.ca>

**25–29** Workshop on Monte Carol Methods (Fields Institute)

[probability@fields.utoronto.ca](mailto:probability@fields.utoronto.ca);

<http://www.math.yorku.ca/Probability/Fields.html>

### OCTOBRE 1998

### DECEMBER 1998

**13–15** CMS Winter Meeting / Réunion d'hiver de la SMC  
 (Queen's University, Kingston)

Monique Bouchard: [meetings@cms.math.ca](mailto:meetings@cms.math.ca)

International Commission on Mathematical Instruction (ICMI) Study Conference (Singapore)

<http://elib.zib.de/IMU/ICMI/bulletin/43/Study.html>

### MAY 1999

**29–31** CMS Summer Meeting / Réunion d'été de la SMC  
 (Memorial University of Newfoundland, St. John's)

Monique Bouchard: [meetings@cms.math.ca](mailto:meetings@cms.math.ca)

### DÉCEMBRE 1998

### MAI 1999

**29–June 4** Moonshine in '99 (Montreal, Quebec)  
*mckay@vax2.concordia.ca*

**JUNE 1999****JUIN 1999**

**4–8** CMESG Meeting (Brock University, St. Catherine's)

**6–9** Annual Meeting of the Statistical Society of Canada  
 (Regina, Saskatchewan)

**14–19** 14th Householder Symposium on Numerical Linear  
 Algebra (Whistler, British Columbia)  
*varah@cs.ubc.ca; http://roadmap.ubc.ca/hholder/*

**JULY 1999****JUILLET 1999**

**5–9** 4th International Congress on Industrial and Applied  
 Mathematics (Edinburgh, Scotland)  
*geninfo.iciam@meetingmakers.co.uk;*  
*http://www/atjs.ed.ac.uk/conferences.iciam99/*

**AUGUST 1999****AOÛT 1999**

International Conference on Valuation Theory and its Appli-  
 cations, Conf. dedicated to Paulo Ribenboim (University of  
 Saskatchewan)  
*fvk@usask.ca; http://math.usask.ca/fvk/Valth.html*

**DECEMBER 1999****DÉCEMBRE 1999**

**11–13** CMS Winter Meeting / Réunion d'hiver de la SMC  
 (Université de Montréal)

*Monique Bouchard: meetings@cms.math.ca*

**JUNE 2000****JUIN 2000**

**9–13** CMS Summer Meeting / Réunion d'été de la SMC  
 (McMaster University)

*Monique Bouchard: meetings@cms.math.ca*

**4–7** Annual Meeting of the Statistical Society of Canada  
 (Ottawa, Ontario)

**12–15** Integral Methods in Science and Engineering (Banff,  
 Alberta) *Peter.Schiavone@ualberta.ca*

**SEPTEMBER 2000****SEPTEMBRE 2000**

**22–24** American Mathematical Society Central Section meet-  
 ings (University of Toronto)  
*http://www.ams.org/meetings/*

**DECEMBER 2000****DÉCEMBRE 2000**

**CMS Winter Meeting / Réunion d'hiver de la SMC**  
 (University of British Columbia)

*Monique Bouchard: meetings@cms.math.ca*

**RATES AND DEADLINES / TARIFS ET DATES LIMITEES**

*If requested the rates indicated include electronic availability.*

*S'il y a lieu, les tarifs indiqués valent aussi pour la disponibilité électronique*

Deadlines for receipt of material are as follows: Les dates limites pour la réception des annonces sont les suivantes :		RATES / TARIFS		
		Advertisement size Grandeur de l'annonce	Educational Institutionnelle	Commercial Commerciale
Feb / fév	15 décembre / December 15	bus. card / carte d'aff.	\$40.00	\$65.00
March / mars	15 janvier / January 15	1/4-page	\$60.00	\$90.00
April / avril	15 février / February 15	1/2-page	\$110.00	\$165.00
May / mai	15 mars / March 15	3/4-page	\$160.00	\$240.00
September / septembre	15 juillet / July 15	1-page	\$200.00	\$300.00
October / octobre	15 août / August 15	Surcharges apply for prime locations / des sur-charges sont applicables pour les places de choix.		
November / novembre	15 septembre / September 15			
December / décembre	15 octobre / October 15			
Subscription to the Notes is included with the CMS membership. For non-CMS members, the subscription rate is \$40 (CDN) for subscribers with Canadian addresses and \$40 (US) for subscribers with non-Canadian addresses. L'adhésion à la SMC comprend l'abonnement aux <i>Notes de la SMC</i> . Le tarif d'abonnement pour les non-membres est de 40 \$ CAN si l'adresse de l'abonné est au Canada et de 40 \$ US si l'adresse est à l'étranger.				

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