

CMS

NOTES

de la SMC

Volume 31

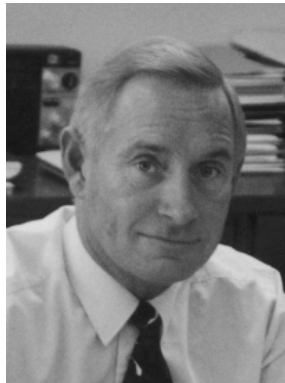
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**FROM THE  
EXECUTIVE  
DIRECTOR'S DESK**



*Graham Wright*

**1998 Annual Report**

The April and May issues of the CMS Notes included reports from the President and from each CMS standing committees for 1998. This article is based upon the 1998 Executive Director's Report.

Words that well describe 1998 are **change, activity and progress**.

Change, activity and progress have certainly been part of the past and they will continue to be very much an aspect of the future. A number of initiatives are currently underway: the various task forces reviewing all of our activities and operations; the establishment of an Endowment Grants Selection Committee and a Student Committee; the new management for the Society's Restricted (Investment) Funds;

the recently approved new reciprocal agreement between the CMS and the AMS; activities connected with the World Math Year 2000. Along with these we are experiencing an expansion in our research activities (more sessions, job fairs and increased linkages with the research institutes and other societies), in our publishing activities (printed and electronic), and in our educational activities (math camps, competitions and other activities to encourage the public appreciation of mathematics). All these factors will contribute to make the future interesting, challenging and exciting.

During the past year, the change in the financial year-end to December 31 not only resulted in new timeframes for all of the financial operations but also necessitated changes to a number of related administrative operations. For example, the Annual General Meeting of members will now take place at the Summer Meeting and not at the Winter Meeting.

The Operations Fund is composed of four divisions *General, Research, Education and Publishing* and every effort is made to be as accurate as possible with the many budget estimates. There are always, however, unforeseen circumstances which impact on the actual final numbers. Overall, the Operations Fund surplus for 1998 was projected to be approximately \$62,500.

*(continued on page 4)*

*CMS NOTES*  
*NOTES DE LA SMC*

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**EDITORIAL**



*Peter Fillmore*

With the return of spring, the more optimistic among us might be forgiven for feeling that there are also signs of a thaw in public attitudes towards mathematics—at least as reflected in some parts of the public press. A recent editorial in the *Notices* of the AMS remarks on the increasing number of science reporters in the US whose specialities include mathematics. Here in Canada, regular readers of the *Globe and Mail* might have noted that the word “mathematics” is appearing with increasing frequency. One article, on the increased need for mathematics in banking, profiled a young executive who frankly admitted her discomfort with this trend. Not only was she not proud of her mathematical deficiencies, but she was determined to address the problem. Presentations of this sort are surely signs that something positive is happening. Together with the new life apparent in the job market, as well as a number of other pieces of good news reported in our pages, the evidence is that we have been having a good year.

This spring marks the fiftieth anniversary of Newfoundland’s entry into the Canadian confederation. It is thus most appropriate that our annual summer meeting should be taking place in St. John’s. This is an excellent opportunity to get to know Newfoundland better—and to enjoy her famous hospitality. The programme has something to interest everyone and we hope that many of you will attend.

This issue of the *NOTES* is the last of the current academic year. We will return in September, and until then we wish our readers a pleasant and productive summer.

À l’approche du printemps, on pardonnera aux plus optimistes d’entre nous de percevoir un dégel dans l’attitude publique envers les mathématiques, du moins si l’on se fie au traitement que leur réservent certains journaux. Récemment, l’éditorialiste des *Notices* of the AMS faisait remarquer qu’un nombre croissant de reporters scientifiques américains comptaient les mathématiques parmi leurs spécialités. Au Canada, les habitués du *Globe and Mail* auront remarqué que le mot «mathématiques» figure de plus en plus souvent dans ses pages. Dans un article sur la nécessité d’avoir des connaissances plus poussées en mathématiques dans le domaine bancaire, une jeune cadre admettait franchement que cette tendance la rendait mal à l’aise. Elle ajoutait qu’elle n’était pas fière de ses lacunes en mathématiques et qu’elle était déterminée à y remédier. Des témoignages de ce genre montrent clairement qu’il y a du positif dans l’air. Ajoutons à cela la nouvelle vigueur ressentie du côté du marché du travail et quelques autres bonnes nouvelles annoncées dans nos publications, et nous avons là tous les indicateurs d’une année fructueuse.

Ce printemps marque aussi le cinquantième anniversaire de l’entrée de Terre-Neuve dans la confédération canadienne. Il est donc tout à fait opportun que notre Réunion d’été ait lieu à St. John’s. Voilà une excellente occasion de découvrir Terre-Neuve et de profiter de la célèbre hospitalité de sa population. Le programme offre de tout pour tous les goûts, et nous espérons vous retrouver à cette Réunion en grand nombre.

Le présent numéro des *NOTES* est le dernier de l’année scolaire. Nous serons de retour en septembre et d’ici là, nous vous souhaitons un été agréable et productif.

## LETTER TO THE EDITORS

*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 or at the CMS Executive Office.*

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The mathematicians of Bosnia and Herzegovina would like to thank the Canadian Mathematical Society and all of its members for the moral and financial support you have extended to us since the start of the aggression on our state in 1992. We would particularly like to thank you for a recent donation of \$1000 that will be used to help defray the costs of putting out

the next edition of our international journal *Radovi Matematički*. Your solidarity and help during our darkest hours will never be forgotten. In the name of all of our mathematicians, the editorial board, and the editor in chief of *Radovi Matematički*, Naza Tanovic-Miller, I thank all members of the CMS.

*Harry Miller (February 21, 1999)*

## THE CAMBRIDGE QUINTET

Book Review by J. Lambek, McGill University

### **John L. Casti, *The Cambridge Quintet: a work of scientific speculation***

Addison-Wesley, Reading, Mass.

The book is about a fictional dinner party given by C.P. Snow at a Cambridge college. Oxbridge dinners tend to be sumptuous affairs and consist of many courses. In Casti's account, only the "savory" and the port are missing. The guests Haldane, Schrödinger, Wittgenstein, and Turing gather to debate the question: can a machine think like a human being? The issue being discussed was fresh in 1949 and is still the subject of lively controversy today, as is the related question: is the human mind a computer? Today we find e.g. Minsky and Pinker on one side of the question and Searle and Penrose on the other, while in the book under review Turing is pitted against Wittgenstein, with Schrödinger, Haldane and Snow contributing their expert opinions to the discussion. Of course, today's television audiences and science fiction fans accept the intelligence and personhood of machines without a second thought.

When asked to review this book, I first had some misgivings, fearing that historical fiction produces misleading pictures of the past, which one's memory later translates into pseudo-facts.

Indeed, I spotted some anachronisms in this tale (the fictional Wittgenstein must have read Searle and the other discussants are familiar with the ideas of Chomsky), though in a postscript Casti confesses that this deceit was deliberate. I was reminded of Umberto Eco putting one of Wittgenstein's aphorisms into the mouth of a medieval monk.

Although I am old enough to have known the five protagonists, I never met any of them face-to-face. I am fairly familiar with the biographies and ideas of Turing, Schrödinger and the early Wittgenstein, and I recall having read a novel by Snow, but must confess that I cannot tell Haldane from the biologist Huxley. I once had a conversation with the intuitionist Brouwer, who challenged me to show him any contributions to mathematics by Wittgenstein. I could only think of truth-ables, forbidden territory to Brouwer, but these had been anticipated by the Stoic philosophers. I only learned quite recently from Phil Scott that Wittgenstein in his *Tractatus* had also invented what are now called the Church numerals, according to which e.g. the number 2 is seen as the process of iterating functions. However, the Wittgenstein of Snow's party is the later Wittgenstein, who had renounced the earlier views expressed in the *Tractatus*, which might

have made him more sympathetic to computer science and the claims of artificial intelligence.

During the meat course, Turing summarizes Wittgenstein's argument, mimicking Searle:

Axiom 1: Programs are purely syntactic objects.

Axiom 2: Human minds have semantic content.

Axiom 3: No amount of syntax can generate semantics.

Conclusion: Programs are neither necessary nor sufficient for mind.

I don't know whether to blame the fictional Turing or Wittgenstein or the real Casti or Searle for this non sequitur. But, if one accepts Axiom 3, how can one expect a purely syntactic argument like this (assuming it has been fixed up to conform to the rules of logic) to have scientific consequences in the real world? In the book, the argument is demolished by Schrödinger, who points out that, if different words are substituted for "programs", "syntactic", etc., one can disprove Maxwell's theory that light is an electro-magnetic phenomenon.

In spite of my nitpicking, I recommend this fascinating tale of how five of the leading intellects of the first half of the twentieth century might have debated the exciting philosophical topic of machine intelligence.

(continued from page 1)

Fortunately, the actual surplus in the Operations Fund is higher than projected at approximately \$90,000.

Expenses in all divisions were well controlled and this resulted in the actual totals for expenditures being very close to the projected amounts. In the Research Activities Division, due to highly successful meetings at Saint John, New Brunswick (June 1998) and at Kingston, Ontario (December 1998), a small surplus rather than a budgeted deficit was achieved. The difference between the Canadian dollar and the US dollar resulted in higher revenues from foreign exchange and, consequently, the actual surplus in Publishing Activities was about \$12,000 more than projected.

On a cautionary note, the 1998 year-end surplus must be balanced with the deficit of \$10,439 for 1997 and a budgeted deficit of just under \$39,000 for 1999. Clearly, the ability of the Society to support a wide array of activities will be severely limited unless additional revenue sources can be found.

With the help of all of those involved in our electronic services, numerous changes, re-designs and developments were made to the CMS web site (*Camel*). Major changes were made to the publications and competitions pages and also significant improvements were made to the bilingualism of each CMS page. Significant efforts were also made to make CMS documents available on the web site in a timely and efficient manner. Wherever possible, the process is automated as much as possible so as to minimize

the amount of additional staff time required.

In 1998, there were significant strides in the area of fund raising. Promotional and other fund raising materials were developed and an extensive campaign begun to obtain a greater level of support from both the private and public sectors. Once again, good media exposure was received for the Canadian Open Mathematics Challenge, the Canadian Mathematical Olympiad and the Canadian team to the International Mathematical Olympiad. Although a good foundation has been established and, although some successes have already been achieved, considerable work remains if the CMS is to obtain the required level of support for its educational, research and publishing activities.

The Society continues to provide an extensive range of periodicals and other publications and, in 1998, much progress took place with regard to our publishing activities.

In 1998, with the inclusion of the CMS Notes, all of the Society's periodicals were available on-line at the CMS web site (<http://cms.math.ca/>). The 1998 CMS Membership Directory was published in the fall and is now also available on-line to CMS members. The on-line version is updated regularly and, therefore, provides members with more current and accurate information.

Thanks to the efforts of all of those involved, particularly the editors-in-chief and the other editors, the Canadian Journal of Mathematics (CJM), the Canadian Mathematical Bulletin (CMB), CRUX with MAYHEM and

the CMS Notes were produced on or ahead of schedule. The high quality and timeliness of each of these periodicals is much appreciated by the many subscribers and others. Although there are some unavoidable delays with the mail (both nationally and internationally) that are outside the Society's control, efforts continue to try and bring about improvements in the mailing of the issues.

During 1998, four volumes in the CMS Conference Proceedings Series (co-published with the American Mathematical Society) were released. The new agreement with Springer Verlag for the CMS Series of Advanced Mathematics Books (effective July, 1998) should result in greater benefits to both authors and the CMS. In the new series of booklets for high school students – ATOM (A Taste of Mathematics) – several booklets are in various stages of production and some of these should be released in 1999.

The Society's extensive program of activities would not be possible without the tremendous help of the members, meeting organizers, volunteers, the staff in the various satellite offices across Canada, as well as those corporations, governments, foundations and others that provide such crucial support. In June 1998, Katherine Heinrich ended her term as President of the CMS and was succeeded by Richard Kane. I extend my sincere thanks to Katherine Heinrich for her leadership, guidance and assistance and I look forward to working with Richard Kane over the next two years. My gratitude and thanks go to all of those who helped make 1998 a most successful and productive year.

## DU BUREAU DU DIRECTEUR ADMINISTRATIF

### Rapport annuelle 1998

(see page 1 for the English version)

Nous avons publié, dans les numéros d'avril et de mai des Notes de la SMC, des rapports du président et de chacun des comités permanents de la SMC pour l'année 1998. L'article suivant est tiré du rapport du directeur administratif.

**Changement, activité et progrès :** trois mots qui décrivent à merveille l'année 1998.

Le changement, les activités et le progrès ont certes fait partie de notre passé et seront souvent au programme dans les années à venir. Plusieurs initiatives ont récemment vu le jour : divers groupes de travail qui examinent nos activités et notre fonctionnement; la création du Comité d'attribution des bourses du fonds de dotation et du Comité étudiant; la nouvelle gestion d'un fonds restreint (d'investissement) de la Société; la nouvelle entente réciproque entre la SMC et l'AMS; les activités liées à l'an 2000, Année internationale des mathématiques. Nous assistons en outre à l'intensification de nos activités de recherche (plus de séances, de foires aux emplois et de rapports avec les instituts de recherche et les autres sociétés), de publication (versions papier et électroniques) et d'éducation (camps de mathématiques, concours et autres activités visant à faire apprécier davantage les mathématiques du public). Pour toutes ces raisons, l'avenir promet d'être intéressant, stimulant et excitant.

Au cours de la dernière année, nous avons reporté la fin de l'exercice financier au 31 décembre. Ce changement a non seulement entraîné la révision des échéances associées à nos opérations financières, mais il a aussi nécessité des changements à un bon nombre de tâches administratives connexes. Par exemple, l'assemblée

générale annuelle des membres aura désormais lieu à la Réunion d'été et non plus à la Réunion d'hiver.

Le fonds de roulement est divisé en quatre divisions *général, recherche, éducation et publication*, et nous tentons l'impossible pour que les nombreuses prévisions budgétaires soient respectées. Toutefois, des circonstances imprévues finissent toujours par faire varier les chiffres définitifs. On prévoyait que le surplus global du fonds de roulement s'élèverait à environ 62 500 \$ pour l'année 1998 mais, à notre plus grande joie, le surplus réel s'établit plutôt à près de 90 000 \$.

Les dépenses ont été bien gérées dans toutes les divisions, ce qui nous a permis d'obtenir des montants réels très près des montants prévus. Dans la division des activités de recherche, en raison du grand succès remporté par les Réunions de Saint John, au Nouveau-Brunswick (juin 1998), et de Kingston, en Ontario (décembre 1998), nous avons inscrit un léger surplus budgétaire au lieu du déficit prévu. Grâce au taux de change élevé entre le dollar canadien et le dollar américain, nous avons enregistré des revenus plus élevés que prévus dans la division des activités de publication. En bout de ligne, le surplus réel se chiffre à environ 12 000 \$ de plus que prévu.

N'oublions pas toutefois que le surplus de l'année 1998 doit être équilibré avec le déficit de 10 439 \$ enregistré en 1997 et un déficit prévu d'un peu moins de 39 000 \$ en 1999. De toute évidence, la Société aura beaucoup de mal à financer une vaste gamme d'activités à moins qu'elle ne trouve des sources de revenus supplémentaires.

Avec l'aide de toutes les personnes associées à nos services électroniques, bon nombre de changements et d'améliorations ont été apportées au

site Web de la SMC (*Camel*). Nous avons considérablement modifié les pages portant sur les publications et les concours, et avons fait de grands progrès quant à la bilinguisation des pages de notre site. Nous avons également déployé de grands efforts pour publier les documents de la SMC sur le Web le plus rapidement et efficacement possible. Dans la mesure du possible, nous avons automatisé le processus de manière à réduire le temps supplémentaire consacré à cette tâche par notre personnel.

En 1998, de grands progrès ont été réalisés du côté de la collecte de fonds. Des documents promotionnels et axés sur le financement ont été conçus, et nous avons amorcé une grande campagne dans le but d'aller chercher plus de financement auprès des secteurs public et privé. Cette année encore, le Défi ouvert canadien de mathématiques, l'Olympiade mathématique du Canada et la participation de l'équipe canadienne à l'Olympiade internationale de mathématiques ont été bien couverts par les médias. Même si nous avons mis en place une base solide et si nous avons connu une certaine dose de succès, il reste encore beaucoup à faire pour que la SMC obtienne le financement requis pour mener à bien ses activités d'éducation, de recherche et de publication.

La Société offre toujours une vaste gamme de périodiques et d'autres publications. En 1998, ses activités de publication ont fait l'objet d'améliorations importantes.

La publication des Notes de la SMC sur le Web a commencé en 1998. Ainsi, toutes les publications de la SMC sont désormais consultables en ligne, sur notre site Web (<http://cms.math.ca/>). Le répertoire 1998 des membres de la

SMC, publié à l'automne, est maintenant aussi offert en ligne aux membres de la Société. Puisque la version électronique est mise à jour régulièrement, les membres ont accès à de l'information plus récente et exacte.

Grâce aux efforts déployés par tous les intéressés, notamment les rédacteurs en chef et autres rédacteurs, le Journal canadien de mathématiques, le Bulletin canadien de mathématiques, le CRUX with MAYHEM et les Notes de la SMC ont paru aux dates prévues ou même avant. Tous, et notamment les nombreux abonnés, apprécient grandement la qualité supérieure et la publication dans les délais de chacun de ces périodiques. Même si nous sommes totalement impuissants face à certains retards inévitables dans la livraison du courrier (au pays et à l'étranger),

nous cherchons toujours des moyens d'améliorer le processus de livraison de nos publications.

En 1998, quatre volumes de la collection des Comptes rendus de conférences de la SMC (publiés en collaboration avec l'American Mathematical Society) ont été publiés. La nouvelle entente avec Springer Verlag sur la collection d'ouvrages de mathématiques avancées de la SMC (en vigueur depuis juillet 1998) devrait rapporter davantage aux auteurs et à la SMC. Quant à la nouvelle collection à l'intention des élèves du secondaire – ATOM (Aime-t-on les mathématiques) – plusieurs livrets en sont à divers stades de production, et quelques-uns devraient paraître en 1999.

Le vaste programme d'activités de

la SMC ne serait pas réalisable sans l'aide inestimable de ses membres, des organisateurs de Réunions, des bénévoles, du personnel de ses bureaux un peu partout au Canada, de même que celle des entreprises, des gouvernements, des fondations et des autres organismes ou personnes qui nous fournissent un appui si précieux. En juin 1998, Katherine Heinrich a terminé son mandat à la présidence la SMC et elle a cédé sa place à Richard Kane. Je remercie sincèrement Katherine Heinrich de sa direction éclairée, de son aide et de son appui, et il me fera plaisir de travailler avec Richard Kane au cours des deux années à venir. Permettez-moi d'exprimer ma gratitude et mes remerciements à tous ceux et celles qui ont contribué à faire de 1998 une année des plus réussies et productives.

## EDUCATION NOTES

Ed Barbeau, University of Toronto

### Real mathematics in the classroom

In the August, 1998 issue of *Scientific American*, Martin Gardner gives a retrospective of his tenure of a quarter century as author of that journal's *Mathematical Games* section. He deplores the fact that mathematics educators have continued to ignore the use of recreational topics in the classroom, although these topics would be a good way to "interest young students in the wonders of mathematics". He recalls the day when his school teacher caught him, during class, trying to analyze whether the first player had a winning strategy in the game of noughts-and-crosses. "Mr. Gardner," the teacher remonstrated, "when you are in my class I expect you to work on mathematics and nothing else." Gardner goes on to note that the problem would make a wonderful classroom exercise. It is a superb way to introduce students to combinatorial mathematics, game theory, symmetry and probability. More-

over, the game is part of every student's experience: Who has not, as a child, played tick-tack-toe? Yet I know few mathematics teachers who have included such games in their lessons.

I have used this example frequently with children of the middle school age, and find that it goes over quite well. If I feel more adventuresome, I introduce it *via* the isomorphic game in which each player in turn selects from the digits 1, 2, ..., 9 one that has not been previously selected. One wins by being the first to find among the digits one has selected three that sum to 15. Using the magic square, one can see an exact correspondence between the winning configurations in these two games. A few very good students can follow the subtle argument by contradiction that the second player cannot possibly have a winning strategy. This is reasoning with a vengeance!

Gardner's charge that educators

have ignored recreational material is not quite true. While some material available is good and some interesting products have appeared on the market (such as the "Sets" deck of cards), unfortunately much of it is either banal or pointless, or leads to complex issues that most teachers cannot be expected to handle. Just as a music teacher will turn to folk music or works of great composers that has stood the test of time, mathematics teachers need to be judicious in exposing children to quality items. We as members of the CMS need to be ready to help find, critically review and promote appropriate material. Make no mistake about it: there is a lot of great stuff, some of it recent – card tricks, demonstrations, games, puzzles – that will engage the interest of children, drive home some important mathematical issues and be capable of a respectable treatment.

I do not know what the schoolyard culture is like today, but I remember

when I was a kid that it embraced a lot of riddles and puzzles. Most of it was nonmathematical and solid corn. For example, one might be asked to explain why, when a person went into a bar and asked for a glass of water, said “thank you” and walked out after the bartender pulled a gun on him. [He had hiccups that were as easily cured by a fright as by a glass of water.] But there were mathematical puzzles as well, such as the one requiring three uses of an equal-arm balance to determine the single ball of odd weight among twelve balls identical in appearance. Some of this material was disseminated by publications like *Readers’ Digest*, pocket fun books by, for example, Jerome Meyer, or booklets put out by such firms as Lytton and Burroughs. These problems, some traditional and some more recent, are a good way to hone analytical skills and the ability to reason and express ideas.

One problem was promulgated under the name of the “Problem of the jealous husbands”: three couples came to a river which they had to cross in a boat holding at most two people; the crossing had to be executed so that no wife could be present with a man unless her own husband was present. Some years ago, back in the NDP-days, the Ontario Ministry of Education sponsored a day-long seminar for all the “stakeholders” to discuss mathematics education. In a chat beforehand with a Ministry official who had previously been a mathematics teacher, we agreed that mathematics is the one subject that a lot of people exult in not knowing anything about or in having done badly at school, but without hesitation urge strong views on what should be taught and how it should be taught. We decided to prepare a list of nice problems to indicate that mathematics went far beyond learning one’s tables; the river-crossing problem was

among them. Apparently, some functionary felt that the situation presented was not politically correct and modified it to have three mothers and daughters crossing the river, with no daughter being left with a mother unless her own mother was present.

But even the jealous husbands version is a variation on the original. The problem appears in the collection *Propositiones ad acuendos juvenes* (Propositions for sharpening youth) compiled by Alcuin of York (735-804), while he was abbot of St.-Martin of Tours. Here is Alcuin’s version:

*Tres fratres erant qui singulas sorores habebant, et fluvium transire debebant (erat enim unicuique illorum concupiscentia in sorore proximi sui), qui venientes ad fluvium non invenerunt nisi parvum naviculam, in qua non potuerunt, amplius nisi duo ex illis transire. Dicat, qui potest, qualiter fluvium transierunt, ne una quidem earum ex ipsis maculata sit?* (There were three men, each having an unmarried sister, who needed to cross a river. Each man was desirous of his friend’s sister. Coming to the river, they found only a small boat in which only two persons could cross at a time. Let him say, he who is able, how did they cross the river so that none of the sisters were defiled by the men?)

This problem appears to be surprisingly difficult. One realizes that generally, to get everyone over, after each crossing, only one person should return to the original bank with the boat. But one should not neglect, as many seem to do, the possibility of two people coming back. River-crossing problems like this, as David Singmaster reminds us, are not unique to European culture; versions appear all over the world. But new and worthy problems are also appearing all the time. Consider this one for example which ap-

pears to have arisen within the last couple of years:

Four men are walking on a very dark night, having only a single flashlight with a weak battery to guide them. They come to a rickety bridge that will hold no more than two of them at a time. They can not shine the light at a distance; nor can risk throwing the flashlight across the bridge from one to another. So two have to cross the bridge with one returning with the flashlight until all men are over. They walk at different maximum speeds. The slowest one takes 10 minutes to cross the bridge; the next, 5 minutes; the next, 2 minutes, and the sprightliest only 1 minute. When two walk together, they must walk at the pace of the slower. What is the minimum amount of time required to get all four men to the other side of the bridge?

It has been my experience that students from the age of eleven up can do these problems at least as well as the general population, although a few prompting questions may help. Pupils must focus their thoughts on the matter at hand, eschewing extraneous considerations, systematically canvass possibilities (and be sure not to neglect any) and express themselves in a coherent way. Since many of the really good recreations are either traditional in some culture or the inspired creation of a contemporary such as John Conway or Piet Hein, they can be an occasion for talking about mathematics as a human activity that embraces all times and places and drawing attention to aesthetic values. This is surely a more enriching use of the time of the vulnerable young than focussing on the needs of the competitive business-industrial world and how they are supposed to fit into it. Children too soon are having to grow up into the more practical but also sterile concerns of the commercial world.

## FROM THE INSTITUTES

### Symposium on the Legacy of John Charles Fields

Immediately preceding the Hamilton joint societies meeting in June 2000, the Fields Institute will host a Symposium on the Legacy of John Charles Fields, at the Royal Ontario Museum in Toronto, June 8-9, 2000. A scientific highlight of the Symposium will be presentations by Fields Medalists on their medal-winning work and its impact. Sir Michael Atiyah will deliver the Banquet Address on Friday evening. Professor Tom Archibald of Acadia University will give a Plenary Lecture on the life and times of John Charles Fields. This Symposium will heighten awareness of mathematics in Canada, and at the same time raise the profile of Canadian mathematics in the world scientific community, as a Canadian contribution to World Mathematical Year 2000 (declared jointly by UNESCO and the IMU).

The planning of this Symposium on the Legacy of John Charles Fields is being coordinated closely with the joint societies meeting in Hamilton. Together, these activities will be an unforgettable and historic event in Canadian mathematics, not to be missed! Watch these Notes for further information on the Symposium, as plans develop.

### Luc Vinet quitte le CRM

Après six ans à la direction du Centre de Recherches Mathématiques, Luc Vinet quittera son poste au mois de mai et deviendra vice-recteur aux affaires académiques de l'Université McGill.

Le professeur Vinet a une longue association avec le CRM, y ayant obtenu son doctorat en 1980 sous la direction de Pavel Winternitz. La même année, il partit pour le M.I.T. pour un stage de boursier post-doctoral. Il est revenu à l'Université de Montréal

en 1982 comme chercheur boursier du CRSNG, et il y est maintenant professeur titulaire depuis 1992. Il a entretemps occupé des postes de professeur visiteur à l'Université Catholique de Louvain, au M.I.T. et à U.C.L.A. Sa recherche couvre une gamme importante de sujets en mathématiques, allant de ses travaux avec Shnider et Harnad, tôt dans sa carrière, sur la réduction par symétrie des champs de Yang-Mills, passant par des applications de la supersymétrie à la mécanique quantique et à la théorie quantique des champs, jusqu'à ses travaux plus récents, en bonne partie conjointement avec Floreanini, sur les groupes quantiques, les algèbres quantiques et leurs applications à la théorie des  $q$ -polynômes orthogonaux et à la combinatoire, ainsi que leurs liens aux systèmes de la mécanique quantique. Ses percées récentes, réussies conjointement avec son étudiant Luc Lapointe, sur les polynômes de Jack et les identités de MacDonald ont été largement reconnues.



Luc Vinet

Le professeur Vinet a été une figure de proue dans l'évolution de la scène mathématique canadienne des dernières années. Son rôle dans la consolidation du CRM a été cruciale. Tout en continuant de développer les programmes qui sont au coeur des activités du CRM, comme le programme thématique, le programme

général, et le programme de bourses postdoctorales conjoint avec l'Institut des Sciences Mathématiques, il a notamment mis sur pied tout un programme industriel qui est maintenant florissant. Une étape majeure fut la fondation en 1996 du RCM<sub>2</sub>, un consortium de centres de recherche Montréalais oeuvrant dans les sciences mathématiques, couvrant des domaines tels que la recherche sur les transports, la recherche opérationnelle, le calcul numérique et les sciences économiques. Ce consortium a reçu une subvention de \$3M du CRSNG sur cinq ans. Le RCM<sub>2</sub> place les mathématiques au centre d'une grande variété de recherche industrielle. Un succès récent du RCM<sub>2</sub> fut l'octroi par Bell Emergis d'un contrat de \$12M pour la recherche en mathématiques liées aux applications multimédias. Le RCM<sub>2</sub> sert aussi de base régionale pour l'initiative MITACS. Sur la scène nationale, Luc Vinet a été un des principaux moteurs des initiatives tels que MITACS, et il a été un porte-parole très efficace pour les mathématiques avec le gouvernement et avec le milieu des affaires.

### National Program Committee of the Canadian Mathematical Sciences Research Institutes

*Centre de Recherches Mathématiques (CRM)*

*The Fields Institute for Research in Mathematical Sciences*

*Pacific Institute for the Mathematical Sciences (PIMS)*

The three Canadian Institutes in the Mathematical Sciences are pleased to announce a new program for the support of joint activities in the mathematical sciences. This program will be administered by a National Program Committee which will make recom-



mendations to the Directors of the three institutes.

**Mandate of the Committee:**

- Allocating funds provided by the three institutes to support conferences and workshops in the mathematical sciences across Canada. These will primarily be activities that fall outside of the main purview of the three institutes.
- Allocating funds for the support of activities that are held at the meetings of the three Canadian mathematical science societies - Canadian Mathematical Society, Canadian Applied and Industrial

Mathematical Society, Statistical Society of Canada.

- Annually coordinating the organization of three Institute Sessions to be held at the meetings of the Canadian Mathematical Society.
- Selecting graduate students to be supported to attend the scientific meetings of the National Societies.
- Coordinating international programs and other ventures where it is advantageous for the three Institutes to act as a whole.

**Membership:**

The six member committee will consist

of the Deputy Director and one member of the scientific advisory panel at each institute.

**Annual Competitions:**

A call for proposals will be made annually with submitted proposals considered semi-annually (September 15 and March 1). Primary administrative responsibility for the program will rotate between the three Institutes on an annual basis. Submissions will be to the Director of the institute administering the program in that year following the guidelines available on the web site of that institute.

**Budget:**

For the year April 1, 2000 to March 31, 2001 the three institutes will jointly allocate up to \$100,000 for activities under this program.

## **International Conference and Workshop on Valuation Theory 1999**

*July 26-August 11, University of Saskatchewan, Saskatoon, Canada  
Sponsors: The Fields Institute, CRM and PIMS*

This conference is dedicated to Paulo Ribenboim, in recognition of his extensive contributions to the subject. Tutorials will be given on July 26 and 27. The conference will be held from July 28 through August 4. There will be a special session in honor of Paulo Ribenboim on July 31, and the informal workshop will be held from August 5 through August 11.

The conference will focus on the interplay of valuation theory with topics such as:

algebraic geometry, real algebraic geometry, non-commutative algebra, Galois theory, rigid analysis, model theory, o-minimal expansions of the reals.

The Scientific Committee consists of:

H. Brungs, B. Green, W. Luetkebohmert, A. Prestel, S. Priess-Crampe, M. Spivakovsky, B. Teissier.

The Organizing Committee consists of:

A. Carson, F.-V. Kuhlmann, S. Kuhlmann, M. Marshall, D. Haskell, H. Schoutens.

Confirmed speakers include:

S. Abhyankar, C. Andradas, R. Brown, A. Buium, G. Christol, V. Cossart, M. Coste, T. Craven, D. Cutkosky, N. Dubrovin, Y. Ershov, J. Engler, J. Graeter, R. Huber, J. Koenigsmann, Q. Liu, F. Loeser, J. Madden, J. Minac, F. van Oystayen, F. Pop, V. Powers, A. Reguera, P. Ribenboim, P. Roquette, M. Saidi, T. Scanlon, C. Scheiderer, N. Schwartz, J. Shackell, P. Speissegger, A. Wadsworth.

For further information and registration see <http://math.usask.ca/fvk/annconf.html> or send an email to: [valth@math.usask.ca](mailto:valth@math.usask.ca).

**CMS Winter Meeting 1999**  
**Renaissance - Hôtel du Parc**  
**Montréal, Québec**  
**December 11 - 13, 1999**

**First Announcement**

On behalf of the Université de Montréal, the Département de Mathématiques et de Statistique extends a warm welcome to all participants in the 1999 Winter Meeting of the CMS.

The meeting follows an expanded format with a programme encompassing nine symposia, various meetings, and plenary talks including the Coxeter-James Lecture and the CMS Doctoral Prize. The symposia are in Algebraic and geometric methods in differential equations, applied logic, combinatorial algebra, group representations and Macdonald polynomials, computing and mathematical modelling, general history of mathematics, mathematical genetics and genomics, mathematical physics, teaching of linear algebra, orders, lattices and universal algebra. In addition there will be a Graduate Seminar and a Contributed Papers Session.

All scientific activities will take place from December 11 to 13, 1999 at the Conference Center of the Renaissance-Hôtel du Parc (3625, Avenue du Parc, Montreal (Quebec) Canada H2X 3P8, Tel (514) 288-6666 or (800) 363-0735, Fax (514) 288-2469, web page [www.duparc.com](http://www.duparc.com)).

The meeting will be preceded by the 30th anniversary of the CRM on December 10 at the Université de Montréal and followed by the First CMS "Job Fair" on December 14 at the Hôtel du Parc.

**Public Lecture**

**Jennifer Chayes, Microsoft Research, Redmond**

**Plenary Speakers**

**Andreas Dress** (University of Bielefeld, Germany)

**Adriano Garsia** (UCSD)

**David Lay** (University of Maryland)

**Elliott H. Lieb** (Princeton)

**Pavel Pevzner** (USC)

**Zhihong Xia** (Northwestern and Georgia Tech).

**Prize Lectures**

The **Coxeter-James Lecture** will be given by **Maciej Zworski**, University of California at Berkeley.

The **CMS Doctoral Prize** is to be announced.

**Symposia**

By invitation of the Meeting Committee, there will be symposia in the following areas:

*Algebraic and geometric methods in differential equations: the 20th century in celestial mechanics and one century of work on Hilbert's 16th problem (CMS-CRM)*

(Org: **Angelo Mingarelli**, Carleton University and **Christiane Rousseau**, Université de Montréal)

Jacques Bélair (Montréal), Sue Campbell (Waterloo), Florin Diacu (Victoria), F. Dumortier (Diepenbeek, Belgium), Jean-Pierre Francoise (Université de Paris VI), John Guckenheimer (Cornell), Ana Guzmán (UNAM, Mexico), P. Holmes (Cornell), Yulij Il'yashenko (Moscow and Cornell), Angelo Mingarelli (Carleton), E. Perez (UAM, Mexico), Robert Rousarie (Dijon, France), Christiane Rousseau (Montréal), D. Saari (Northwestern), Dana Schlomiuk (Montréal), Sergey Yakovenko (Weizmann, Israël).

*Applied Logic*

(Org: **Wendy MacCaull**, St. Francis Xavier University, **Phil Scott**, University of Ottawa and **Prakash Panangaden**, McGill University)

Speakers to be announced.

*Combinatorial algebra, group representations and Macdonald polynomials*

(Org: **François Bergeron**, UQAM and **Nantel Bergeron**, York University)

Speakers to be announced.

*Computing and mathematical modelling (CMS - NCM<sub>2</sub>)*

(Org: **Pierre Hansen**, Ecole des HEC, Montréal and **Gilbert Laporte**, CRT, Université de Montréal)

Speakers to be announced.

*General history of mathematics*

(Org: **Richard O'Lander** and **Ronald Sklar**, St-John's University, USA)

Speakers to be announced.

*Graduate Student Seminar (CMS-ISM)*

(Org: **Paul Libbrecht**, UQAM, **Thomas Mattman**, McGill and **Simon Thomas**, McGill)

A seminar is being organized by and for graduate students. Anyone interested in participating in this seminar should contact the Meeting Director at the following address: [md-w99@cms.math.ca](mailto:md-w99@cms.math.ca).

*Mathematical physics*

- I. Probability methods and applications*  
*II. Group theory methods and applications*  
 (CMS-PIms)

(Org: **George Bluman**, UBC, **Michel Grundland**, UQTR and **Gordon Slade**, McMaster University)

Speakers to be announced.

*Mathematical genetics and genomics*  
(CMS-Fields)

(Org: **Sabin Lessard**, Université de Montréal and **David Sankoff**, Université de Montréal)

Kevin Atteson (Yale), Andreas Dress (Bielefeld), R.C. Griffiths (Oxford), Tao Jiang (McMaster), Ming Li (Waterloo), Nicholas Shork (CWURU), Katy Simonsen (NCSSU), Michael Steel (Canterbury), Simon Tavaré (USC), Elisabeth Thompson (Washington).

*Orders, lattices and universal algebra*

(Org: **Benoît Larose**, Collège régional Champlain, Longueuil, **Lucien Haddad**, Royal Military College, Kingston, and **Ivo Rosenberg**, Université de Montréal)

Speakers to be announced.

*Teaching of linear algebra*

(Org: **Joel Hillel**, Concordia University and **Jacqueline Klasa**, Vanier College, Montréal)

Speakers to be announced.

*Contributed Papers Session*

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, 1999**. The abstract must be accompanied by its contributor's registration form and payment of the appropriate fees.

**Related Activities**

**30th Anniversary of the CRM:** December 10, 1999, Centre de recherches mathématiques, Université de Montréal. For information, please contact Louis Pelletier (30e@CRM.UMontreal.CA)

**First CMS "Job Fair":** December 14, 1999, Hôtel du Parc. For information, please contact Christiane Rousseau (rousseac@DMS.UMontreal.CA)

**Submission of Abstracts**

**Titles** for Plenary Speakers, Prize Lecturers and Invited symposia 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 **November** 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) <http://camel.math.ca/CMS/Events/winter99>.

**All speakers should send the title of their talk to their organizers before August 1st, and submit their abstract to the CMS as instructed by their organizers.**

**Plenary Speakers, Prize Lecturers and Invited symposia Speakers for the scientific and education programme:**

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 Winter Meeting 1999, CMS Executive Office, 577 King Edward, Suite 109, Ottawa, Ontario CANADA K1N 6N5 **by September 1, 1999**.

**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, in the **September** issue of the *CMS Notes*, or at the CMS web site. Abstracts should be sent to the Abstracts Coordinator, CMS Winter Meeting 1999, CMS Executive Office, 577 King Edward, Suite 109, Ottawa, Ontario CANADA K1N 6N5 **by September 30, 1999**.

**Electronic submission of abstracts:** Files including the speaker's name, affiliation, complete address, title of talk, and abstracts may be sent to [abstracts@cms.math.ca](mailto:abstracts@cms.math.ca) (speakers) or [abstracts-cp@cms.math.ca](mailto:abstracts-cp@cms.math.ca) (contributed papers).

*Please note the above deadlines for the submission of your abstract.*

**Social Events**

The welcoming reception will be held during registration on Friday evening, December 10, from 7:00 p.m. to 9:00 p.m. at the Renaissance - Hôtel du Parc. A cash bar will be available.

A delegate luncheon and a banquet will be held at the Renaissance-Hôtel du Parc.

Coffee and juice will be available during the scheduled breaks.

**Exhibits**

Exhibits will be open during specified hours in the Hallway of the Conference Center. The CMS exhibit will be open throughout the course of the meeting.

## Preliminary Activities

The following activities will be held prior to the scientific programme:

Dec 9	09:00-16:00	CMS Executive Committee Salon Jeanne-Mance The Conference Center
Dec 10	11:00-13:00	CMS Development Group (luncheon) Salon Laurier The Conference Center
Dec 10	13:30-18:30	CMS Board of Directors Salon Des Pins Renaissance-Hôtel du Parc

## Registration

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.

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

A preregistration form will be included in the **September** issue of the *CMS Notes* and is available by contacting:

CMS Executive Office  
577 King Edward, Suite 109  
P.O. 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/winter99>

## Refund Policy

Delegates wishing to cancel their registration must notify the Executive Office **in writing before December 1** to receive a refund less a \$40 processing fee. Those whose contributed papers have not been accepted will upon request be fully refunded.

## 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 **November 8, 1999**. Reservations not in by that date will be on a request only, space available basis. Rates quoted are in Canadian dollars.

### Renaissance-Hôtel du Parc

3625, Avenue du Parc, Montréal (Québec) H2X 3P8  
Check-in: 15:00; Check-out: 12:00

Reservation Deadline: **November 8, 1999**

Rates: \$109, single/double occupancy, *regular room*  
\$129, single/double occupancy, *Club excellence*  
(An additional charge of \$15/room for additional person.)

Applicable taxes: GST (7%), PST (7.5%),  
Municipal hotel tax (\$2 per room)

Phone: 514-288-6666

Reservations FAX: 514-288-2469

Toll-free reservations (Canada & US): 1-800-363-0735

Reservations will be held until 18:00 on the arrival day only, unless you provide a deposit for one night or the reservation is guaranteed by a major credit card.

### Quality Hotel

3440, Avenue du Parc, Montréal (Québec) H2X 2H5

Check-in: 15:00; Check-out: 12:00

Reservation Deadline: **November 8, 1999**

Rates: \$69, queensize bed or 2 double beds-s/d/t/q occupancy  
\$78, kingsize bed - single/double occupancy

Applicable taxes: GST (7%), PST (7.5%),

Municipal hotel tax (\$2 per room)

Phone: 514-849-1413

Reservations FAX: 514-849-6564

Toll-free reservations (Canada & US): 1-800-228-5151

Reservations will be held until 18:00 on the arrival day only, unless you provide a deposit for one night or the reservation is guaranteed by a major credit card.

### Hôtel de Paris

901, rue Sherbrooke est, Montréal (Québec) H2L 1L3

*This is a bed and breakfast style accommodation. Please call the number below for more details on accommodation and services provided.*

Check-in: 12:00; Check-out: 12:00

Reservation Deadline: **November 8, 1999**

Rates: \$32, per person

Applicable taxes: GST (7%), PST (7.5%),

Municipal hotel tax (\$2 per room)

Phone: 514-522-6861

Reservations FAX: 514-522-1387

Toll-free reservations (Canada & US): 1-800-567-7217

Reservations will be held until 18:00 on the arrival day only, unless you provide a deposit for one night or the reservation is guaranteed by a major credit card.

Attendees should make their own reservations by calling the above numbers. The conference rate is extended up to two days pre- and post-convention. Please mention that you are participating in the CMS Winter Meeting.

## Child Care

Child care can be arranged by the Renaissance-Hôtel du Parc by calling the front desk. Advance notice of 24 hours is required.

## Travel

Autocar Connaisseur/Gray Line offers an Express Airport Service between Dorval and the Center-town Terminal (777, de la Gauchetière) or the Voyageur Bus Terminal (Berri-UQAM subway station). Fees are \$9.25 one-way and \$16.75 return.

Gray Line provides transportation directly to l'Hôtel du Parc every half hour between 05:10 and 23:10. The cost is \$9.25 one-way. Please call ahead to organize transport.

To reach the Quality Hotel from the Voyageur terminal, take the subway (green line) to Place des Arts and then take the Bleury exit. Avenue du Parc extends Bleury Street to the North and the hotel is only a few blocks away.

To reach the Hôtel de Paris from the Voyageur terminal, walk up north on Berri and then turn right on Sherbrooke.

For more information, please consult the Dorval Airport website at [www.admtl.com/dorval](http://www.admtl.com/dorval).

## Acknowledgements

The support of the following organizations is gratefully acknowledged:

- Centre de recherches mathématiques
- Institut des sciences mathématiques
- Network for Computing and Mathematical Modeling
- The Fields Institute for Research in Mathematical Sciences
- The Pacific Institute for the Mathematical Sciences.

The CMS wishes to acknowledge the contribution of the members of the Meeting Committee for organizing this meeting and presenting these exciting scientific, educational, and social programs.

## Meeting Committee

*Meeting Director:* Michel Delfour (Montréal)

*Local Organizing Committee Chair:* Véronique Hussin

## Réunion d'hiver 1999 de la SMC Renaissance Hôtel du Parc Montréal (Québec) du 11 au 13 décembre, 1999

### Première annonce

Au nom de l'Université de Montréal, le Département de Mathématiques et de Statistique est heureux d'accueillir à Montréal tous les participants et toutes les participantes à la Réunion d'hiver 1999 de la SMC.

Suivant le nouvel esprit des réunions de la SMC, le programme a été considérablement enrichi pour inclure neuf symposia, plusieurs réunions, et neuf conférences plénières dont la conférence Coxeter-James et le prix de la meilleure thèse de doctorat. Les symposia portent sur le calcul et la modélisation mathématique, la combinatoire algébrique, les représentations des groupes et polynômes de Macdonald, l'enseignement de l'algèbre linéaire, la génétique et la génomique mathématiques, l'histoire générale des mathématiques, la logique appliquée, les méthodes

(Montréal).

François Bergeron, Nantel Bergeron, George Bluman, Monique Bouchard (CMS ex-officio), Martin Goldstein, Michel Grundland, Lucien Haddad, Pierre Hansen, Joel Hillel, Jacques Hurtubise (CMS ex-officio), Jacqueline Klasa, François Lalonde, Gilbert Laporte, Benoît Larose, Sabin Lessard, Paul Libbrecht, Wendy MacCaull, Thomas Mattman, Angelo Mingarelli, Richard O'Lander, Ivo Rosenberg, Christiane Rousseau, David Sankoff, Phil Scott, Ronald Sklar, Gordon Slade, Simon Thomas, Graham Wright (CMS ex-officio).

## Information to be sent to speakers in June 1999

First Announcement  
Registration Form  
Hotel Reservation Form  
Equipment Order Form - Speakers  
Abstract Form - Speakers  
Instructions on Submission of Abstracts

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

Second Announcement  
Maps to Montréal & Hotels  
Registration, Abstract and Hotel Forms

algébriques et géométriques en équations différentielles, les ordres, treillis et algèbre universelle, et la physique mathématique.

Enfin il y aura le séminaire des étudiants aux cycles supérieurs et un espace pour des communications brèves.

Toutes les activités scientifiques se dérouleront du 11 au 13 décembre 1999 au Centre de Conférence du Renaissance Hôtel du Parc (3625, Avenue du Parc, Montréal (Québec) Canada H2X 3P8, Tél (514) 288-6666 ou (800) 363-0735, Télécopieur (514) 288-2469, page web [www.du.parc.com](http://www.du.parc.com)).

La réunion sera précédée par le 30ème anniversaire du CRM le 11 décembre 1999 et suivie du premier Carrefour emploi de la SMC le 14 décembre 1999.

## Conférence publique

Jennifer Chayes, Microsoft Research, Redmond

## Conférenciers pléniers

Andreas Dress (Université de Bielefeld, Germany)

Adriano Garsia (UCSD)

David Lay (University of Maryland)

**Elliott H. Lieb** (Princeton)  
**Pavel Pevzner** (USC)  
**Zhihong Xia** (Northwestern and Georgia Tech).

## Conférences associées aux prix de la SMC

La conférence **Coxeter-James** sera donnée par **Maciej Zworski**, University of California at Berkeley.

**Prix de la meilleure thèse de doctorat** : à venir

## Symposia

Sur l'invitation du comité de coordination, il y aura des symposia sur les thèmes suivants :

*Méthodes algébriques et géométriques en équations différentielles : la mécanique céleste au 20<sup>è</sup> siècle et un siècle de travail sur le 16<sup>è</sup> problème de Hilbert (SMC-CRM)*  
 (Org: **Angelo Mingarelli**, Université Carleton et **Christiane Rousseau**, Université de Montréal)

Jacques Bélair (Montréal), Sue Campbell (Waterloo), Florin Diacu (Victoria), F. Dumortier (Diepenbeek, Belgique), Jean-Pierre Francoise (Université de Paris VI), John Guckenheimer (Cornell), Ana Guzmán (UNAM, Mexico), P. Holmes (Cornell), Yulij Il'yashenko (Moscow and Cornell), Angelo Mingarelli (Carleton), E. Perez (UAM, Mexico), Robert Rousarie (Dijon, France), Christiane Rousseau (Montréal), D. Saari (Northwestern), Dana Schlomiuk (Montréal), Sergey Yakovenko (Weizmann, Israël).

### *Logique appliquée*

(Org: **Wendy MacCaull**, St. Francis Xavier University, **Phil Scott**, Université d'Ottawa et **Prakash Panangaden**, McGill University)

Liste de conférenciers à venir.

*Combinatoire algébrique, représentations des groupes et polynômes de Macdonald*  
 (Org: **François Bergeron**, UQAM et **Nantel Bergeron**, York University)

Liste de conférenciers à venir.

*Calcul et modélisation mathématique (SMC - NCM<sub>2</sub>)*  
 (Org: **Pierre Hansen**, Ecole des HEC, Montréal et **Gilbert Laporte**, CRT, Université de Montréal)

Liste de conférenciers à venir.

*Histoire générale des mathématiques*  
 (Org: **Richard O'Lander** et **Ronald Sklar**, St-John's University, USA)

Liste de conférenciers à venir.

### *Séminaire des étudiants aux cycles supérieurs (SMC-ISM)*

(Org: **Paul Libbrecht**, UQAM, **Thomas Mattman**, McGill et **Simon Thomas**, McGill)

Ce séminaire est organisé par et à l'intention des étudiants aux cycles supérieurs. Toute personne intéressée à ce séminaire devrait contacter le Coordinateur de la Réunion, à l'adresse suivante : `md-w99@cms.math.ca`.

### *Physique mathématique*

*I. Méthodes probabilistes et applications*  
*II. Méthodes de la théorie des groupes et applications (SMC-Pims)*

(Org: **George Bluman**, UBC, **Michel Grundland**, UQTR et **Gordon Slade**, McMaster University)

Liste de conférenciers à venir.

### *Génétique et génomique mathématiques (SMC-Fields)*

(Org: **Sabin Lessard**, Université de Montréal et **David Sankoff**, Université de Montréal)

Kevin Atteson (Yale), Andreas Dress (Bielefeld), R.C. Griffiths (Oxford), Tao Jiang (McMaster), Ming Li (Waterloo), Nicholas Shork (CWRU), Katy Simonsen (NCSU), Michael Steel (Canterbury), Simon Tavaré (USC), Elisabeth Thompson (Washington).

### *Ordres, treillis et algèbre universelle*

(Org: **Benoît Larose**, Collège régional Champlain, Longueuil, **Lucien Haddad**, Royal Military College, Kingston, et **Ivo Rosenberg**, Université de Montréal)

Liste de conférenciers à venir.

### *L'enseignement de l'algèbre linéaire*

(Org: **Joel Hillel**, Concordia University et **Jacqueline Klasa**, Vanier College, Montréal)

Liste de conférenciers à venir.

### *Communications*

Nous lançons un appel pour des communications en sollicitant particulièrement la participation des étudiants diplômés. Nous réservons 15 minutes pour chaque communication. Les résumés devront respecter les critères précisés ci-dessous et nous parvenir **au plus tard le 30 septembre 1999**. Nous demandons à chacun de joindre au résumé le formulaire et le règlement des frais d'inscription.

## Activités connexes

**30ème anniversaire du CRM:** 10 décembre 1999, Centre de recherches mathématiques, Université de Montréal. Pour renseignements, s'adresser à Louis Pelletier (30e@CRM.UMontreal.CA)

**Premier «Carrefour Emploi» de la SMC :** 14 décembre 1999, Hôtel du Parc. Pour renseignements, s'adresser à Christiane Rousseau (rousseac@DMS.UMontreal.CA)

## Envoi des résumés

**Titres :** La SMC publiera les **titres** des conférenciers pléniers, primés, et invités dans le numéro de **novembre** des *Notes et la SMC*. Les **titres** des communications paraîtront dans le numéro de **novembre**. Tous les **résumés** seront aussi accessibles à partir du site Web : <http://camel.math.ca/CMS/Events/winter99>.

**Tous les conférenciers sont priés d'envoyer le titre de leur conférence aux organisateurs avant le 1er août et de faire parvenir le résumé de leur conférence à la SMC selon les instructions des organisateurs de leur symposium.**

**Conférenciers pléniers, primés et invités :** Les résumés peuvent être transmis par courriel (instructions ci-dessous) ou par la poste sur le formulaire de la SMC disponible au bureau de la SMC ou par l'intermédiaire des organisateurs des symposia. Les résumés devraient parvenir à la Coordinatrice des résumés, Réunion d'hiver 1999, Bureau administratif de la SMC, 577 King Edward, Salle 109, Ottawa (Ontario) Canada K1N 6N5 **au plus tard le 1er septembre, 1999.**

**Communications :** les résumés peuvent être transmis par courriel (instructions ci-dessous) ou par la poste sur le formulaire de la SMC disponible au bureau de la SMC et dans le numéro de **septembre** des *Notes de la SMC*. Adresser le tout à la Coordinatrice des résumés, Réunion d'hiver 1999, Bureau administratif de la SMC, 577 King Edward, Salle 109, Ottawa (Ontario) Canada K1N 6N5 **au plus tard le 30 septembre, 1999.**

**Envoi des résumés par courriel :** On peut transmettre les fichiers, incluant le nom du conférencier, son affiliation, son adresse complète, le titre et résumé de la communication, à : [resumes@smc.math.ca](mailto:resumes@smc.math.ca) (conférenciers invités) ou [resumes-cl@smc.math.ca](mailto:resumes-cl@smc.math.ca) (communications).

*Prière de respecter les dates limites ci-dessus pour la soumission de votre résumé.*

## Activités sociales

Une réception d'accueil avec bar payant aura lieu le vendredi 10 décembre, de 19h00 à 21h00 pendant l'inscription au Renaissance Hôtel du Parc.

Le lunch des participants et un banquet se tiendront au Renaissance Hôtel du Parc.

Café et jus seront disponibles au cours des pauses.

## Expositions

Les kiosques d'expositions seront ouverts aux heures indiqués dans le Hall du Centre de Conférence. Celui de la SMC restera ouvert durant toute la réunion.

## Réunions de travail de la SMC

Les activités suivantes auront lieu avant le début des activités scientifiques :

9 déc	9h00 à 16h00	Réunion du comité exécutif Salon Jeanne-Mance Centre de conférence
10 déc	11h00 à 13h00	Lunch du groupe de développement Salon Laurier Centre de conférence
10 déc	13h30 à 18h30	Réunion du Conseil d'administration Salon Des Pins Renaissance Hôtel du Parc

## Inscription

Les frais (en devises canadiennes) sont payables par chèques, VISA ou MasterCard. Les paiements en devises américaines seront acceptés mais nous vous demandons de contacter votre institution financière pour prendre connaissance du tarif d'échange en vigueur.

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

Un formulaire de préinscription sera inclus dans le numéro de **septembre** des *Notes de la SMC*. On peut également se le procurer à l'adresse suivante :

Bureau d'administration de la SMC  
577 King Edward, Suite 109  
C.P. 450, Succursale A  
Ottawa, Ontario CANADA K1N 6N5  
Téléphone: 613-562-5702  
Télécopieur: 613-565-1539  
Courriel: [reunions@smc.math.ca](mailto: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/winter99>

## Remboursement

Les participants qui désirent annuler leur inscription doivent en aviser le bureau administratif de la SMC par écrit avant le **1 décembre** pour se voir rembourser leurs frais d'inscription (moins 40 \$). Les participants dont les communications n'auront pas été acceptées seront remboursés intégralement sur demande.

## Hébergement

Il est fortement recommandé aux participants de réserver à l'avance. Des chambres ont été retenues aux trois endroits ci-dessous jusqu'au 8 novembre, 1999. Après cette date les hôtels ne prendront vos réservations que s'il reste des chambres disponibles. Les tarifs sont indiqués en devises canadiennes.

### Renaissance Hôtel du Parc

3625, Avenue du Parc, Montréal (Québec) H2X 3P8

Arrivée : 15h; départ : 12h

Réserver au plus tard le **8 novembre, 1999**

Tarifs: 109,00 \$, 1 ou 2 personnes, *chambre régulière*  
129,00 \$, 1 ou 2 personnes, *Club excellence*  
(15,00 \$ supplémentaire par personne additionnelle)

Taxes applicables: TPS(7%), TVQ(7.5%),

taxe municipale de logement (2\$ par chambre)

Téléphone: 514-288-6666; Fax: 514-288-2469

Réservations (Canada & US) sans frais: 1-800-363-0735

Les chambres sont retenues jusqu'à 18h00 sauf si vous donnez un dépôt pour la première nuit ou un numéro de carte de crédit en garantie.

### Quality Hôtel

3440, Avenue du Parc, Montréal (Québec) H2X 2H5

Arrivée: 15:00; départ: 12:00

Réserver au plus tard le **8 novembre 1999**

Tarifs: 69 \$ chambre avec lit queen ou deux lits doubles  
pour 1,2,3 ou 4 personnes  
78 \$ Chambre avec lit king pour 1 ou 2 personnes

Taxes applicables: TPS(7%), TVQ(7.5%),

taxe municipale de logement (2\$ par chambre)

Téléphone: 514-849-1413; Fax: 514-849-6564

Réservations (Canada & US) sans frais: 1-800-268-6116

Les chambres sont retenues jusqu'à 18h00 sauf si vous donnez un dépôt pour la première nuit ou un numéro de carte de crédit en garantie.

### Hôtel de Paris

901, rue Sherbrooke est, Montréal (Québec) H2L 1L3

*Veillez appeler le numéro indiqué ci-dessous pour de plus amples renseignements sur les services.*

Arrivée: 12:00; départ: 12:00

Réserver au plus tard le **8 novembre 1999**

Tarifs: 32 \$ par personne

Taxes applicables: TPS(7%), TVQ(7.5%),

taxe municipale de logement (2\$ par chambre)

Téléphone: 514-522-6861; Fax: 514-522-1387

Réservations (Canada & US) sans frais: 1-800-567-7217

Les chambres sont retenues jusqu'à 18h00 sauf si vous donnez un dépôt pour la première nuit ou un numéro de carte de crédit en garantie.

Vous êtes priés de faire vos propres réservations. Les tarifs préférentiels s'appliquent aussi pour les deux jours qui précèdent et qui suivent la réunion. Veuillez mentionner que vous participez à la réunion d'hiver de la SMC.

## Service de garde

Le Renaissance Hôtel du Parc peut organiser un service de garde moyennant un préavis de 24 heures.

## Déplacements

Autocar Connaisseur/Gray Line offre le service Express Aéroport entre Dorval et l'aérogare Centre-Ville (777, de la Gauchetière) ou le terminus Voyageur (station de métro Berri-UQAM). Les tarifs sont de \$9.25 pour un trajet simple et de \$16.75 pour l'aller-retour.

Pour rejoindre directement l'hôtel du Parc, vous avez un service de la compagnie Gray Line à chaque demi-heure entre 5 h 10 et 23 h 10. Le coût du trajet simple est de \$9.25. Vous devez appeler l'hôtel pour organiser le transport.

Pour rejoindre le Quality hotel du terminus Voyageur, prenez le metro (ligne verte) jusqu'à la station Place des Arts et ensuite la sortie sur Bleury. L'avenue du Parc prolonge la rue Bleury vers le Nord et l'hôtel se trouve à quelques rues.

Pour rejoindre l'hôtel de Paris du terminus Voyageur, marchez vers le nord sur Berri et ensuite tournez à droite sur Sherbrooke.

Pour plus d'informations, vous pouvez consulter le site web de l'aéroport de Dorval à la section "services aux usagers" ([www.admtl.com/dorval](http://www.admtl.com/dorval)).

## Remerciements

Nous remercions les organisations suivantes pour leur soutien financier

- Centre de recherches mathématiques
- Institut des sciences mathématiques
- Réseau de calcul et de modélisation mathématique
- The Fields Institute for Research in Mathematical Sciences
- The Pacific Institute for the Mathematical Sciences

La SMC tient à remercier tous les membres du comité de coordination pour l'organisation de la réunion et des activités scientifiques, éducationnelles et sociales.

## Comité de Coordination

*Président et coordonnateur* : Michel Delfour (Montréal)

*Présidente du Comité local* : Véronique Hussin (Montréal).

François Bergeron, Nantel Bergeron, George Bluman, Monique Bouchard (SMC ex-officio), Martin Goldstein, Michel Grundland, Lucien Haddad, Pierre Hansen, Joel Hillel, Jacques Hurtubise (SMC ex-officio), Jacqueline Klasa, François Lalonde, Gilbert Laporte, Benoît Larose, Sabin Lessard, Paul Libbrecht, Wendy MacCaull, Thomas Mattman, Angelo Mingarelli, Richard O'Lander, Ivo Rosenberg, Christiane Rousseau, David Sankoff, Phil Scott, Ronald Sklar, Gordon Slade, Simon Thomas, Graham Wright (SMC ex-officio)



## Information envoyée aux conférenciers en juin 1999

Première annonce  
 Formulaire d'inscription  
 Formulaire de réservation d'hôtel  
 Formulaire de réquisition de matériel - Conférenciers  
 Formulaire de résumé - Conférenciers  
 Instructions concernant l'envoi des résumés

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

Deuxième annonce  
 Cartes de Montréal et du trajet vers les hôtels  
 Formulaire d'inscriptions, de résumé et de réservation d'hôtel

## CMS Summer Meeting 1999 Memorial University of Newfoundland St. John's, Newfoundland May 29-June 1, 1999

### Fifth Announcement

Please refer to the Second, Third and Fourth Announcements in previous issues of the *CMS Notes* for more complete information on the scientific, education and social programmes. This announcement features an updated timetable and any changes to the programmes previously announced. The most up-to-date information concerning the programme, including scheduling, is available at the following world wide web address:

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

Meeting registration forms and abstract forms for contributed papers may be found in the February issue of the *CMS Notes*. Online registration and online submission of abstracts is also available from the conference's web page.

### Programme Updates

**Public speaker:** Ed Barbeau of the University of Toronto will be the conference's public speaker. Dr. Barbeau's presentation is entitled "*Delicious mathematics*". The public lecture is scheduled for Saturday, May 29 at 8 p.m.

**Graduate student session:** Daniel Dyer ([tdyer@sfu.ca](mailto:tdyer@sfu.ca)) and Ronald Haynes ([rhaynes@cecm.sfu.ca](mailto:rhaynes@cecm.sfu.ca)) of Simon Fraser University are organising the session whose theme will focus on computational mathematics.

**Harmonic Analysis:** M. Christ is unable to attend as previously announced. Tieling Chen (UWO) will be presenting a talk.

**Perspectives in Ring Theory:** Anthony Bak (Bielefeld), Stefaan Caenepeel (Brussels) and Qiang Wang (MUN) will also be presenting talks.

**Combinatorics and its Applications:** Rolf Rees (MUN) will also be presenting a talk.

**Nonlinear Analysis and its Applications:** Massimo Furi (Florence) will also be presenting a talk.

**New tax:** We regret to inform all participants that a Tourism Marketing Levy of 3% came into effect in early January in St. John's. The levy is applicable on all hotel room charges.

### Acknowledgements

The CMS and the Meeting Committee wish to extend its thanks to the Centre de recherches mathématiques, the Fields Institute, the Faculty of Science of Memorial University of Newfoundland along with its Vice-President (Academic) and Vice-President (Research), from Memorial University of Newfoundland, and the members of the Department of Mathematics and Statistics, for their financial support of the scientific sessions at this meeting.

The CMS wishes to acknowledge the contribution of the Meeting Committee in presenting these exciting scientific, educational, and social programs.

### Meeting Committee

*Meeting Director:* Hermann Brunner (MUN), *Local Organizing Committee:* Richard Charron (MUN), *Ring Theory:* Eric Jespers (Brussels) and Edgar Goodaire (MUN), *Harmonic Analysis:* Kathryn Hare (Waterloo), *Representation Theory:* Abraham Broer (McGill), *Combinatorics:* Nabil Shalaby (MUN) and Douglas Stinson (Waterloo), *Nonlinear Analysis:* Sankatha Singh (MUN) and Bruce Watson (MUN), *Surveys in Mathematics:* Kumar Murty (Toronto) and Niky Kamran (McGill), *Education:* Bruce Shawyer (MUN) and Ed Williams (MUN), Monique Bouchard (CMS), Graham Wright (CMS), Rosalind English (MUN), Wanda Heath (MUN).

### Items also published with this announcement

Updated list of speakers  
 Timetable - schedule

## Réunion d'été 1999 de la SMC Université Memorial de Terre-Neuve St. John's, Terre-Neuve du 29 mai au 1<sup>er</sup> juin, 1999

### Cinquième annonce

Veillez consulter la deuxième, troisième, et quatrième annonce dans les numéros précédents des *Notes de la SMC* pour obtenir l'ensemble des informations sur le programme scientifique et pédagogique, et les activités sociales. La présente annonce contient l'horaire et tous les changements aux programmes annoncés précédemment. Vous trouverez l'information la plus récente sur le programme, y compris les horaires, à l'adresse Web suivante:

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

Un formulaire d'inscription et un formulaire de résumé pour communications libres étaient inclus dans le numéro de février des *Notes de la SMC*. L'inscription et la soumission de résumé par moyen électronique est disponible à partir du site web de la conférence.

### Changements au programme

**Conférence publique :** la conférence publique sera prononcée par Ed Barbeau de l'Université de Toronto. Le titre de la conférence est "*Delicious mathematics*". Elle aura lieu samedi le 29 mai à 20 h.

**Séance pour étudiants diplômés :** les organisateurs de la séance sont Daniel Dyer ([tddyer@sfu.ca](mailto:tddyer@sfu.ca)) et Ronald Haynes ([rhaynes@cecm.sfu.ca](mailto:rhaynes@cecm.sfu.ca)) de l'Université Simon Fraser. Le thème de la séance portera sur l'informatique relié aux recherches en mathématiques.

**Analyse harmonique :** M. Christ ne pourra pas participer tel qu'annoncé plus tôt. Tieling Chen (UWO) est ajouté à la liste des participants.

**Perspectives de la théorie des anneaux :** Anthony Bak (Bielefeld), Stefaan Caenepeel (Brussels) et Qiang Wang (MUN) sont ajoutés à la liste des participants.

**Combinatoire et applications:** on ajoute Rolf Rees (MUN) à la liste des participants.

**Analyse nonlinéaire et applications:** on ajoute Massimo Furi (Florence) à la liste des participants.

**Nouvelle taxe :** nous regrettons avoir à vous informer qu'une nouvelle taxe de tourisme de 3% sur les frais de chambre d'hôtel est entrée en vigueur au début janvier.

### Remerciements

Le comité organisationnel et la SMC tient à remercier le Centre de recherches mathématiques de l'Université de Montréal, l'Institut Fields, la Faculté des Sciences de l'Université Memorial ainsi que son Vice-Président (Académique) et son Vice-Président (Recherches) pour leurs contributions financières aux séances scientifiques de la Réunion. Nous remercions également le département de mathématiques et statistique pour son support dans l'organisation de la Réunion.

La SMC tient à remercier le comité des Réunions qui a contribué à l'organisation des activités scientifiques et éducatives, ainsi que les activités sociales.

### Comité des Réunions

*Directeur de la Réunion :* Hermann Brunner (MUN),  
*Président du Comité local :* Richard Charron (MUN), *Théorie des anneaux :* Eric Jaspers (Bruxelles) et Edgar Goodaire (MUN), *Analyse harmonique :* Kathryn Hare (Waterloo), *Théorie des représentations:* Abraham Broer (McGill), *Combinatoire:* Nabil Shalaby (MUN) et Douglas Stinson (Waterloo), *Analyse non linéaire:* Sankatha Singh (MUN) et Bruce Watson (MUN), *Éducation:* Bruce Shawyer (MUN) et Ed Williams (MUN), *Études en mathématiques:* Kumar Murty (Toronto) et Niky Kamran (McGill), Monique Bouchard (SMC), Graham Wright (SMC), Rosalind English (MUN), Wanda Heath (MUN).

### Documents publiés avec cette annonce

Mise à jour de la liste des conférenciers

Horaire et programme

#### CMS MEMBERSHIP ...

The 1999 Membership Final Notices have been mailed. Don't forget to renew your membership.

#### ADHÉSION À LA SMC ...

Les avis finals d'adhésion 1999 sont postés. N'oubliez pas de renouveler votre adhésion.

## SCHEDULED SPEAKERS / CONFÉRENCIERS PRÉVUS

Here is a list of the confirmed speakers. Abstracts for all talks may be found at the following world wide web page after May 1:

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

Voici les conférenciers prévus à date. Les résumés pour toutes les conférences seront disponibles à l'adresse Web suivante après le 1<sup>er</sup> mai :

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

### JEFFERY-WILLIAMS LECTURE CONFÉRENCE JEFFERY-WILLIAMS

**John Friedlander** (University of Toronto) *Prime Values of Polynomials.*

### KRIEGER NELSON LECTURE CONFÉRENCE KRIEGER NELSON

**Nicole Tomczak-Jaegermann** (University of Alberta) *Asymptotic Aspects in Geometric Functional Analysis.*

### PUBLIC LECTURE CONFÉRENCE PUBLIQUE

**Ed Barbeau** (University of Alberta) *Delicious mathematics.*

### PLENARY SPEAKERS CONFÉRENCIERS PRINCIPAUX

**Ed Barbeau** (Toronto) *Men as trees walking.*

**Michael van den Bergh** (Belgium)

**Ranee Brylinski** (Pennsylvania State) *Star products and quantization of manifolds with symmetry.*

**Tom Korner** (Cambridge) *Does order matter?*

**Douglas Stinson** (Waterloo) *Orthogonal arrays: variations on a theme, and applications.*

**Luc Vinet** (CRM)

### SPECIAL SESSIONS SÉANCES SPÉCIALES

**COMBINATORICS AND ITS APPLICATIONS  
COMBINATOIRE ET APPLICATIONS**  
(Org: Nabil Shalaby and Douglas Stinson)

**Lynn Batten** (Manitoba) *On Chen's construction of minimum five codes.*

**Frank Bennett** (Mount St. Vincent) *Steiner pentagon packing and covering designs.*

**Jeff Dinitz** (Vermont)

**Katherine Heinrich** (SFU) *Uniform coverings of 2-paths.*

**Vaclav Linek** (Winnipeg) *Large Odd periodic and generalized Skolem sequences.*

**William Martin** (Winnipeg) *From synchronization to integration: ordered codes and ordered orthogonal arrays.*

**Eric Mendelsohn** (Toronto)

**Chris Rodger** (Auburn) *Maximal sets of Hamiltonian cycles.*

**Alexander Rosa** (McMaster) *Orthogonal double covers and symmetric graph designs.*

**EDUCATION / ÉDUCATION**  
**What Mathematical Competitions  
do for Mathematics**  
**Ce que contribuent les  
compétitions au domaine des mathématiques**  
(Org: Bruce Shawyer and Ed Williams)

**Peter Crippen** (Waterloo)

**Ron Dunkley** (Waterloo)

**Tony Gardiner** (Birmingham) *What math competitions have done for the UK math community.*

**Rita Janes** (NCTM Director, co-founder Newfoundland and Labrador Mathematics League)

**David Leeming** (Victoria) *MATHCOUNTS - Challenges and Opportunities*

**John Grant McLoughlin** (Memorial) *Popular distractors: one avenue into the mathematical thinking underlying errors in math contests.*

**Shannon Sullivan** (MUN student) *Why I hated Achilles.*

**GRADUATE STUDENT SEMINAR  
SÉANCE POUR ÉTUDIANTS DIPLÔMÉS**  
(Org: Daniel Dyer and Ronald Haynes)

**Speakers:** TBA

**HARMONIC ANALYSIS  
ANALYSE HARMONIQUE**

(Org: Kathryn Hare)

**J. Benedetto** (Maryland) *The role of tiling in sampling and wavelet theory.*

**T. Chen** (UWO) *Generalized Hardy operators and normalizing Measures.*

**C. Finet** (Belgium) *Transfer principles in Orlicz spaces.*

**B. Forrest** (Waterloo) *Operator spaces in noncommutative harmonic analysis.*

**Jean-Paul Gabardo** (McMaster) *Determinacy in truncated trigonometric moment problems and the extension property.*

**E. Granirer** (UBC) *Some functional analytic properties of quotients of the Fourier algebra as reflected by some subsets of the real line.*

**H. Heinig** (McMaster) *Modular inequalities for the Calderón operator.*

**Z. Hu** (Windsor) *Isomorphism and homomorphism results on the von Neumann algebra  $VN(G)$ .*

**R. Kerman** (Brock) *Weighted inequalities for semigroups of operators and the norm convergence of the Abel means of certain eigenfunction expansions.*

**T. Lau** (Alberta) *On the centre of some Banach algebras associated to a locally compact group.*

**D. Oberlin** (Florida) *Convolution with affine arclength measures in the plane.*

**J.-O. Ronning** (Skovde) *Generalized Perron trees – What and why.*

**G. Sinnamon** (UWO) *From Nörlund matrices to Laplace representations.*

**S. Wainger** (Wisconsin) *Some discrete problems in harmonic analysis.*

**NONLINEAR ANALYSIS AND ITS APPLICATIONS  
ANALYSE NONLINÉAIRE ET APPLICATIONS**

(Org: S.P. Singh and Bruce Watson)

**Giampietro Allasia** (Torino) *Cardinal basis interpolation on multivariate scattered data.*

**Tomas Benavides** (Sevilla)

**Jonathan Borwein** (SFU) *Generic behaviour of generalized gradients.*

**Antonio Carbone** (Calabria)

**Raffaele Chiappinelli** (Siena) *Nonlinear solvability of eigenvalues of compact self-adjoint operators.*

**Francesco DeBlasi** (Rome)

**Hanuman P. Dikshit** (M.P. Bhoj) *Necessary & sufficient conditions for Birkhoff interpolation on non-uniformly distributed points on the unit circle.*

**Massimo Furi** (Florence) *A new extension of the Leray-Schauder degree theory.*

**Paul Gauthier** (Montreal) *Regular quasiregular mappings.*

**Kaz Goebel** (Lublin) *Ways to retract balls onto spheres in Banach spaces.*

**Farhad Jafari** (Wyoming)

**Jinlu Li** (Shawnee State U) *Ky Fan's best approximation in Banach spaces.*

**Ivar Massabo** (Calabria)

**M. Aslam Noor** (Dalhousie) *Auxiliary principle techniques and variational inequalities.*

**Pier Luigi Papini** (Bologna)

**George Phillips** (St. Andrew's)

**Luigi Rodino** (Torino) *Local solvability for nonlinear partial differential equations.*

**Virendra Sehgal** (Wyoming)

**Wataru Takahashi** (Tokyo) *Approximating fixed points and applications.*

**E. Tarafdar** (Australia)

**John Whitfield** (Lakehead)

**PERSPECTIVES IN RING THEORY**

**PERSPECTIVES DE LA THÉORIE DES ANNEAUX**

(Org: Eric Jespers and Edgar Goodaire)

**Anthony Bak** (Bielefeld) *Multiplicative Spectra for rings and automorphism groups of modules and modules with forms.*

**Yuri Bakhturin** (Moscow)

**Margaret Beattie** (Mount Allison)

**Howard Bell** (Brock) *Setwise commutativity conditions in rings.*

**Hans Brungs** (Alberta) *Valuation trees.*

**Stefaan Caenepeel** (Brussel) *Separable functors applied to Doi-Hopf modules.*

**Gerald Cliff** (Alberta)

**Jairo Gonçalves** (Sao Paulo) *Free objects in algebras.*

**Klaus Hoechsmann** (UBC) *Units in commutative integral group rings.*

**Stanley Juriaans** (Sao Paulo)

**Thomas Kucera** (Manitoba) *Explicit descriptions of the indecomposable injective modules over Jategaonkar's rings.*

**Keith Nicholson** (Calgary)

**Jan Okninski** (Warsaw) *Subspace semigroups.*

**Donald Passman** (Wisconsin)

**Mohan Putcha** (North Carolina State) *Monoids and Hecke algebra.*

**Robert Raphael** (Concordia)

**Lex Renner** (UWO) *Blocks of algebraic monoids.*

**Akbar Rhemtulla** (Alberta) *The group ring of the Braid group.*

**Sudarshan Sehgal** (Edmonton)

**Wataru Takahashi** (Tokyo)

**Qiang Wang** (MUN) *Hereditary semigroup rings.*

**Paul Wauters** (Limburgs) *Primitive localisations of group algebras of polycyclic-by-finite groups.*

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**REPRESENTATION THEORY  
THÉORIE DES REPRÉSENTATIONS**

(Org: Abraham Broer)

**Jon Brundan** (Oregon at Eugene) *A modular analogue of Zelevinsky's branching rule for  $GL_n(F_q)$ .*

**Clifton Cunningham** (Massachusetts) *Topological nilpotence and the Fourier transform on a  $p$ -adic Lie algebra.*

**Sam R. Evens** (Arizona at Tucson) *Poisson geometry, a theorem of Kostant, and Schubert calculus.*

**Loek Helminck** (North Carolina State) *On orbit closures of symmetric subgroups in flag varieties.*

**Markus Hunziker** (Brandeis) *Equivariant  $D$ -modules, Weyl group representations, and nilpotent orbits.*

**Alex S. Kleshchev** (Oregon at Eugene) *Irreducible subgroups of the symmetric group.*

**Friedrich Knop** (Rutgers)

**V. Lakshmibai** (Northeastern) *Some affine varieties related to Schubert varieties.*

**W. Monty McGovern** (Seattle) *Integrable systems and algebraic geometry.*

**George McNinch** (Notre Dame) *Semisimplicity of exterior powers of semisimple representations of groups.*

**Fiona Murnaghan** (Toronto) *Germs of characters of admissible representations.*

**Monica Nevins** (Alberta)

**Mark Reeder** (Boston College)

**Yasmine Sanderson** (Rutgers)

**Gordan Savin** (Utah)

**Eric Sommers** (Harvard) *Functions on Nilpotent Orbits.*

**Peter Trapa** (Inst. for Advanced Studies) *Genuine characters of the metaplectic group.*

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**SURVEYS IN MATHEMATICS  
ÉTUDES EN MATHÉMATIQUES**  
(Org: Kumar Murty and Niky Kamran)

**Jacques Hurtubise** (McGill) *Integrable systems and algebraic geometry.*

**Niky Kamran** (McGill) *Recent progress in the study of the Dirac operator in black hole geometries.*

**James Lewis** (Alberta) *Algebraic cycles and Hodge theory.*

**Neal Madras** (York) *Some simple models of phase transitions.*

**Heydar Radjavi** (Dalhousie) *Operator semigroups and reducibility questions.*

**Damien Roy** (Ottawa) *Diophantine approximation and transcendental numbers.*

**Dana Schlomiuk** (Montreal) *Analytic, geometric and algebraic methods, intertwined in the study of planar vector fields.*

**Nicole Tomcjak-Jaegerman** (Alberta)

**Ravi Vakil** (MIT) *Gromov-Witten invariants and algebraic geometry.*

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**CONTRIBUTED PAPERS  
COMMUNICATIONS LIBRES**  
(Org: Hermann Brunner and Bruce Watson)

Confirmed speakers as of March 19:

**John Baker** (Waterloo) *The Dirichlet Problem for Ellipsoids.*

**Line Baribeau\*** and **Thomas Ransford** (Laval) *Non-linear spectrum-preserving maps.*

**Mahmoud Qafsaoui** (Picardie) *Equivalence between regularity theorems and heat kernel estimates for higher order elliptic operators under divergence form.*

**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 SUMMER MEETING 1999 RÉUNION D'ÉTÉ DE LA SMC**  
**SCHEDULE - HORAIRE**  
**MEMORIAL UNIVERSITY OF NEWFOUNDLAND - UNIVERSITÉ MEMORIAL DE TERRE-NEUVE**  
**ST. JOHN'S, NEWFOUNDLAND**

Time Heure	Thursday / jeudi May 27 mai	Friday / vendredi May 28 mai	Saturday / samedi May 29 mai	Sunday / dimanche May 30 mai	Monday / lundi May 31 mai	Tuesday / mardi June 1 juin
8:00			Registration open from 8:00 a.m. to 5:00 p.m. Bureau d'inscription ouvert de 8:00 à 17:00 Coffee will be available in the Exhibit area / Le café sera servi dans l'aire d'exposition			
8:30			8:00 to 17:00 Exhibits - Expositions	8:00 to 17:00 Exhibits - Expositions	8:00 to 17:00 Exhibits / Expositions	
9:00			8:30 - 9:00 Opening Remarks Mots de bienvenue			
9:00			9:00 - 10:00 ED BARBEAU	9:00 - 10:00 TOM KORNER	9:00 - 10:00 LUC VINET	9:00 - 10:00 MICHAEL van den BERGH
10:00	9:00 - 16:00 Executive Committee Meeting Réunion du Comité exécutif		10:00 - 10:15 COFFEE BREAK/PAUSE CAFÉ			
10:15	Columbus Suite Hotel Newfoundland		10:15 - 11:45 SESSIONS 1,2,3,4,5,7	10:15 - 12:15 SESSIONS 1,2,3,4,5,6	10:15 - 12:15 SESSIONS 1,2,5,6	10:15 - 12:15 SESSIONS 1,2,5
11:00		11:00 - 13:00 CMS Development Group Groupe de développement				
12:00		Columbus Suite Hotel Newfoundland				
12:15			12:00 - 14:00 DELEGATES LUNCHEON	12:15 - 14:00 LUNCH / DÉJEUNER	12:15 - 14:00 LUNCH / DÉJEUNER	12:15 - 14:00 LUNCH / DÉJEUNER
13:00			LUNCH DES PARTICIPANTS			
13:30		13:30 - 18:30 Board of Directors Meeting Réunion du Conseil d'administration				
14:00		Salon Battery Hotel Newfoundland	14:00 - 15:00 JEFFERY-WILLIAMS LECTURE JOHN FRIEDLANDER	14:00 - 15:00 DOUGLAS STINSON	14:00 - 15:00 KRIEGER NELSON LECTURE NICOLE TOMCZAK- JAEGERMANN	14:00 - 15:00 RANEE BRYLINSKI

Time Heure	Thursday / jeudi May 27 mai	Friday / vendredi May 28 mai	Saturday / samedi May 29 mai	Sunday / dimanche May 30 mai	Monday / lundi May 31 mai	Tuesday / mardi June 1 juin
15:00	9:00 - 16:00 Executive Committee Meeting Réunion du Comité exécutif	13:30 - 18:30 Board of Directors Meeting Réunion du Conseil d'administration	15:00 - 17:30 SESSIONS 1,2,3,4,6,7	15:00 - 17:00 General Meeting Assemblée Générale	15:00 - 17:00 SESSIONS 1,3,5,8,9	15:00 - 17:00 SESSIONS 1,3,8,9
16:00	Columbus Suite Hotel Newfoundland	Salon Battery Hotel Newfoundland				
17:00						
17:30						
Evening		19:00 - 22:00 Reception Cash-bar and Evening Registration Réception (bar payant) et inscription  Court Garden Salon Hotel Newfoundland	20:00 - 21:00 PUBLIC LECTURE	19:30 - 23:00 Conference Dinner  <i>Newfoundland Kitchen Party</i>  The Marine Institute		

1. Perspectives in Ring Theory / Perspectives de la théorie des anneaux
2. Harmonic Analysis / Analyse harmonique
3. Representation Theory / Théorie des représentations
4. Combinatorics and its Applications / Combinatoire et applications
5. Nonlinear Analysis and its Applications / Analyse nonlinéaire et applications
6. Surveys in Mathematics / Études en mathématiques
7. Education / Éducation
8. Contributed Papers / Communications libres
9. Graduate Student Session / Séance pour étudiants diplômés

*The following are taken from the 1998 Annual Reports from the Society's Standing Committees. The remainder were published in the April issue of the CMS Notes.*

## REPORT OF THE TREASURER

Arthur Sherk

1998 was the first full year of our new fiscal year, coinciding with the calendar year. While having the potential for a problem year, it has in fact turned out quite favourably.

The Operations Fund, consisting of the General, Publishing, Research, and Education Divisions, shows a favourable balance for the year in \$89,500, and brings the cumulative total to \$120,259, exclusive of \$23,057 in Capital Assets. Following the approved procedure of keeping no more than \$75,000 in the cumulative total of revenues over expenses, \$45,259 has been transferred to the Endowment Fund.

A closer look at the actual revenue and expenditures, compared to the budgeted amounts, shows how the unexpectedly high balance was reached. The greatest single revenue increase was in Foreign Exchange; the high US Dollar (or low Canadian Dollar) works in our favour. In terms of expenses, there are a great number of relatively small (but cumulatively very important) savings in administrative and committee bud-

gets, which have also helped. My thanks to the administrative offices and committee chairs for their sensitivity in this regard.

There are matters for concern in the Operations Fund report. Revenue from Membership fees did not come up to expectation, and although revenue from publications is up over the previous year, the number of subscriptions is down. For a variety of reasons the Education Division operated at a deficit, and we continue to struggle with the problem of adequate revenue to support the CAMEL activities. Most of these problems are agenda items for the various Task Forces which are now in operation.

On a brighter note, the Endowment Fund yielded good returns, and now has a market value in excess of \$1.5 million. 1999 will be the first year in which we implement the recommendations of the Endowment Fund Task Force, and use a portion of the annual income for various approved projects.

## EDUCATION COMMITTEE

**Morris Orzech (Queen's) Chair**  
**Jacques Bélair (Montréal)**  
**Eddy Campbell (Queen's)**  
**Harvey Gerber (Simon Fraser)**  
**Denis Hanson (Regina)**  
**Jacqueline Klasa (Vanier College)**  
**Gordon MacDonald (UPEI)**  
**Eric Muller (Brock)**  
**Pat Rogers (York)**  
**Bruce Shawyer (Memorial)**  
**Maureen Tingley (UNB Fredericton)**  
**Robert Woodrow (Calgary)**

The committee organized two education sessions at each of the 1998 CMS annual meetings, including one in Kingston sponsored jointly with the Fields Institute and the Queen's Mathematics, Science and Technology Education Group.

The committee was responsible for CMS participation in and support of the CMS/Fields Panel at Mathfest'98 (Toronto, July 98), the 1998 Canadian Undergraduate Mathematics

Conference (UBC) and the Canada Wide Science Fair of the Youth Science Foundation (Timmins, Ontario).

Working through the committee, the CMS helped support six provincial or regional high school mathematics contests in 1998 (in Alberta, Manitoba, Ontario, Québec, the Maritimes, and Newfoundland).

The CMS provides modest matching grants for public lecturers and for raising public awareness of mathematics. These are adjudicated by the Education Committee. In 1998 the CMS helped fund events organized at SFU, UNBC, and at the 1998 meeting of the Ontario Association for Mathematics Education. The latter meeting, at North Bay, featured an invited reprise of an OAME'97 workshop on web resources for teachers organized through the CMS Education Committee.

The Education Committee acts on behalf of the CMS in selecting recipients for the Adrien Pouliot Award, which recognizes outstanding contributions to mathematics education. The committee had the pleasure of choosing Bernard Hodgson as the recipient of the 1998 award.



## FUND RAISING COMMITTEE

**Katherine Heinrich (Simon Fraser) Co-Chair**  
**Richard Kane (Western) Co-Chair**  
**Lesya Balych (Bank of Montreal)**  
**F.A. Baragar (Alberta)**  
**David Borwein (Western)**  
**Maxim Burke (UPEI)**  
**Charles Edmunds (Mount St.Vincent)**  
**J. Chris Fisher (Regina)**  
**Arthur Gerhard (Manitoba)**  
**David Leeming (Victoria)**  
**Rosaria Morelli**  
**Ginette Ouellette (College de Valleyfield)**  
**Georg Schmidt (McGill)**  
**F. Arthur Sherk (Toronto)**  
**Jon Thompson (UNB)**  
**J. Wick Pelletier (York)**  
**E.R. Williams (Memorial)**  
**Graham P. Wright (Ottawa)**

A significant reorganization of the Fund Raising Committee, as well as a new framework for sponsorship, was approved by the Board in June. This change was motivated by the fact that our fundraising activities have had reasonable success at the level of provincial governments but much less success in obtaining corporate sponsors. The new format for our fund raising will be to focus it in a small group of people, notably the Executive Director, Graham Wright. The Fund Raising Committee will be chaired by the President and serve primarily as an advisory group rather than as active fundraisers. The new framework for sponsorship is designed to make sponsorship more attractive and understandable. In particular, the benefits package provides a structure for recognising levels of contribution (Title Sponsors, Major Sponsors, Supporters).

In its pursuit of corporate sponsors, the committee has been fortunate to acquire two energetic and able advisors, Lesya Balych (Bank of Montreal) and Rosaria Morelli, who can provide a bridge between the CMS and the world of finance and industry. A systematic letter and phone campaign targeting 100 corporate sponsors is underway. Some notable

successes have already been achieved. Sun Life has agreed to double their contribution to \$10,000, which qualifies them to be a Major Sponsor for the Canadian Mathematical Olympiad for 1999. Imperial Oil Charitable Foundation will be a Title Sponsor of CMS regional and national math camps via a contribution of \$15,000.

A more individualized approach to provincial agencies proved successful in 1998. Each letter sent to a ministry cited the performance of the province's students on the COMC, the CMO and the IMO, as well as in any provincial activity that we knew about. We reached a level of 8 ministries contributing a total of \$28,000 during 1998. Funding was received from: Alberta, Saskatchewan, Ontario, Quebec, New Brunswick, Nova Scotia, Newfoundland, and the North West Territories. As well, Industry Canada provided CRUX with MAYHEM to the schools of the gold medal winning students from the Open.

Membership recruitment continues to be an area of concern where only limited results have been obtained so far. It is hoped that a new reciprocity membership agreement with the AMS, which will be implemented next year, will prove a major stimulant.

In the 1998 CMS membership drive, members were given the opportunity to donate to specific areas of CMS operations. This proved to be very successful and members donated over \$6,200. A final decision was also made regarding the \$1000 contributed by CMS members "to aid mathematicians in Sarajevo". It will be given to the Bosnian mathematical journal *Radovi Matematicki*.

In 1998, the Board approved the establishment of the CMS Endowment Grants Competition. For many years we have been steadily building up the Endowment Fund to a value of about \$1.5 million at the end of 1998. Now we will have the opportunity to begin putting the Endowment Fund to work. We anticipate that the CMS Endowment Grants program will distribute approximately \$60,000 annually. Our other endowment fund, the Mathematical Olympiads Fund, stood at just over \$180,000 at the end of 1998.

## ELECTRONIC SERVICES COMMITTEE

**Robert Rosebrugh (Mt. Allison) Chair Francois Bergeron (UQAM)**  
**Jonathan Borwein (Simon Fraser)**  
**Eddy Campbell (Queen's)**  
**Gerald Cliff (Alberta)**  
**Robert Corless (Western)**  
**Ian Goulden (Waterloo)**  
**Jacqueline Klasa (Vanier College)**

**June Lester (UNB)**  
**Duncan Murdoch (Queen's)**  
**David Rodgers (Enterprise Info Sys)**  
**Graham P. Wright (Ottawa)**

The Electronic Services Committee (ESC) is responsible for the burgeoning electronic activities of the CMS. It works closely with the Finance and Publications committees of the Society and has ex-officio members from the Research, Ed-

ucation and Women in Mathematics Committees. As well, a private sector member is active in the ESC.

Since its creation in 1994, "Camel"—the Canadian Mathematics Electronic Service - Les Services Mathématiques Electroniques Canadiens—has been the public electronic face of the CMS. It receives hundreds of thousands of 'hits' per month. Behind the scenes, a remarkable group of programmers develop new services at the Centre for Experimental and Constructive Mathematics of Simon Fraser University and at the Department of Mathematics and Statistics at the University of Ottawa. Over the past year, much of the routine updating and related work for Camel has moved to Ottawa and Ottawa will soon become the primary server.

Camel offers a comprehensive set of resources. These include general information about the Society, CMS Conference information (including on-line registration), abstracts

for CMS publications, material on Mathematical Education, on Women in Mathematics, on NSERC, on electronic Journals, and links to a broad selection of other mathematical resources. Beginning in September 1996, all of the Society's publications have now moved to digital publication, with the Journal, Bulletin and Notes going on line in 1998. The decision has recently been made to integrate subscriptions to the publications with the electronic versions, and, as a result, the Society's investment in digital publishing will soon begin to generate revenue. As well, the success of our web site has resulted in a number of interesting possibilities for sponsorship.

As Camel is maturing after five years of operation, and as part of the current review of its activities, the CMS has mandated an external review of Electronic Services and Camel.

## HUMAN RIGHTS COMMITTEE

**David Poole (Trent) Chair**  
**Ejaz Ahmed (Regina)**  
**Lynn Batten (Manitoba)**  
**Karl Dilcher (Dalhousie)**  
**Stephen Kirkland (Regina)**  
**Anthony Thompson (Dalhousie)**

The CMS Human Rights Committee has been following the case of Ahn Jae-Ku, a former professor of mathematics at Kyonghee University in the Republic of Korea. Ahn has been imprisoned since 1994 for his allegedly pro-North Korean political activities. Despite numerous and repeated pleas from many international organizations, including the CMS, there

has been no information from the Korean authorities about Ahn's well-being. The Human Rights Committee has continued to press for information, most recently sending a letter of concern to South Korean President Kim Dae Jong. There has been no reply.

The Human Rights Committee was also asked by the Executive in 1998 to consider the employment situation for young mathematicians in Canada, specifically the increasing number of short-term appointments that inhibit emerging mathematicians' ability to pursue excellence in teaching and research. The Committee has drafted a statement of concern about this practice and will be forwarding it to the Executive for approval early in 1999.

## PUBLICATIONS COMMITTEE

**James Mingo (Queen's) Chair**  
**Gerald Cliff (Alberta)**  
**Olga Kharlampovich (McGill)**  
**Anthony Peirce (UBC)**  
**Thomas Salisbury (York)**  
**Richard Wood (Dalhousie)**

The Publications Committee oversees the publishing activities of the Society. The publications of the Society together with their editors-in-chief are the

*Canadian Journal of Mathematics*, J. Carrell and N. Ghoussoub

*Canadian Mathematical Bulletin*, M. Min-Oo and A. Nicas

*Crux Mathematicorum with Mathematical Mayhem*,

Bruce Shawyer

*CMS Series of Advanced Books in Mathematics*, J. Borwein and P. Borwein

*Conference Proceedings Series*, A. Geramita and N. Kamran

*CMS Notes*, P. Fillmore and S. Swaminathan

*A Taste of Mathematics (ATOM)*, R. Nowakowski

The G. de B. Robinson Prize is awarded each year for an outstanding article published in one of the Society's two research journals; in even numbered years the prize is awarded for an article published in the *Journal* and in odd numbered years for an article published in the *Bulletin*. In 1998 the prize was awarded to Professor Ranee Brylinski of the Pennsylvania State University for her article *Quantization of the 4-dimensional nilpotent orbit of  $SL_4(\mathbb{R})$*  published in volume

49 no. 5 (1997) of the *Journal*.

The following editorial appointments were made.

*Canadian Journal of Mathematics* and *Canadian Mathematical Bulletin*, F. Lalonde, J. Millson and C. Sulem, Associate Editors.

*CMS Series of Advanced Books in Mathematics*, J. Borwein and P. Borwein, Editors-in-Chief.

*CMS Notes*, P. Fillmore and S. Swaminathan, Editors-in-Chief. J. Lewis and N. Yui, Contributing Editors for Research. E. Barbeau, Contributing Editor for Education.

*A Taste of Mathematics (ATOM)*, R. Nowakowski, Editor-in-Chief; B. Shawyer and E. Barbeau, Associate Editors.

*Crux Mathematicorum with Mathematical Mayhem*, C. Fischer, Problems Editor; R. Guy, Editor at large; D. Hanson, Articles Editor; A. Law, Book Review Editor; and J. Totten,

Problems Editor.

The Committee approved free electronic access to the electronic version of the *CMS Notes*. All CMS periodicals are now available electronically.

The Society terminated its contract with John Wiley & Sons and signed a new contract with Springer-Verlag (New York). The expectation is the new contract will provide increased visibility for the series and thus better sales.

The Committee approved a redesign of the *Journal* and the *Bulletin*. New fonts have been selected and the layout has been modified. The *Journal* and *Bulletin* should have a more open look but without a decrease in the number of papers published. Beginning in 1998 the *CMS Notes* were published in a new attractive and compact format.

## FINANCE COMMITTEE

**Gordon Mason (UNB) Chair**

**Timothy Appelt (Structured Analytics)**

**Ian Goulden (Waterloo)**

**Katherine Heinrich (Simon Fraser)**

**Richard Kane (Western)**

**Michael Lamoureux (Calgary)**

**Ben Segal (Gov. of Canada)**

**F. Arthur Sherk (Toronto)**

**Graham P. Wright (Ottawa)**

The Finance Committee deals with the Society's budget and its investments. For details on the former, see the Treasurer's Report.

Until December 1998, the Restricted Funds of the CMS (consisting of the Endowment Fund and the Mathematical Olympiad Fund) were managed by RBC Dominion Securities from their Ottawa office, under advice from the Investment Advisory Group (IAG), reporting to the Finance Committee.

At its October 1998 meeting, on a recommendation from

the IAG, the Finance Committee agreed to seek proposals from financial institutions in Toronto for management of the investments. After receiving four such proposals, the Finance Committee met by conference call in December and decided on a passive management proposal with the Toronto Dominion Bank as its manager. The CMS Board approved these motions at its December meeting. It was further recommended that the asset mix be changed from the current proportions (50% Bonds and short-term, 30% Canadian Equities and 20 % US equities) to divide the Canadian portion into 20 % Canadian equities and 10% foreign.

At the Board meeting in December, the report of the Endowment Task Force was also approved. This provides a means of spending some of the income once the fund exceeds \$1.5 million. As of December 1998, the Endowment Fund had reached this level and, the other investment fund, the Mathematical Olympiads Fund, stood at approximately \$180,000.

### NOTICE / AVIS

The following is a reminder of closing dates for nominations at the CMS. Full details can be found in the April *Notes*.

Les suivantes sont les dates de fermetures des nominations de la SMC. Pour plus de détails voyez les *Notes* du mois du avril.

**Coxeter-James / Jeffery-Williams / Krieger-Nelson Prize Lectureships**  
**Prix de conférence Coxeter-James / Jeffery-Williams / Krieger-Nelson**

**September 1, 1999**  
**1er septembre 1999**

# 1999 ENDOWMENT GRANTS COMPETITION / CONCOURS DE BOURSES DU FONDS DE DOTATION 1999

## CALL FOR PROPOSALS / APPEL DE PROPOSITIONS

The Canadian Mathematical Society is pleased to announce a new grants competition to fund projects that contribute to the broader good of the mathematical community. A portion of the annual income from the CMS Endowment Fund will be used to fund such projects and an Endowment Grants Committee (EGC) will administer the distribution of the grants and will adjudicate proposals for projects.

Proposals must address the goal and statement of purpose of the Canadian Mathematical Society:

The goal of the Canadian Mathematical Society is to support the promotion and advancement of the discovery, learning, and application of mathematics. The CMS Statement of Purpose is:

1. To unify and support Canadian mathematicians through effective communication, broad membership, sponsorship of diverse activities, and partnerships with like professional societies.
2. To support mathematics research through the communication of current research to both the specialist and non-specialist, public recognition of research accomplishments and collaboration with the research institutes and granting agencies.
3. To support the advancement of mathematics education through joint projects with mathematics educators at all levels, promotion of educational advancements, and partnerships with provincial ministries of education and organizations supporting mathematics education.
4. To champion mathematics through initiatives that explain, promote and increase the general understanding of mathematics, provide extra-curricula opportunities for students, and encourage partnerships with corporate, government and not-for-profit agencies.

An applicant may be involved in only one proposal per competition as a principal applicant. Proposals must come from CMS members, or, if joint, at least one principal applicant must be a CMS member.

The EGC will consider funding proposals for a maximum of three years. However, multi-year proposals must be funded from the funds available to the EGC in the year of application. The EGC will normally consider funding proposals to a maximum of \$5,000 per year.

The EGC committee will favour proposals where CMS funds can be leveraged or where proposals have no other natural funding body to which to apply. Opportunities for leveraging CMS funds and/or alternate sources of funding should be made explicit in the proposal.

If it is anticipated that a proposal will generate something of lasting financial value, proposers must indicate if this is the case and declare their intent with respect to that value.

Proposals must be short, two pages at most, in 12 point type, with 1" margins, double spaced. Each proposal must include a summary of 100 words or less, and should indicate to which organization the cheque should be sent in the event the proposal is successful. Each principal applicant must provide a short two-page summary curriculum vitae. The curriculum vitae must include a description of the funding applied for or held by the proposer(s) that has relevance to the proposal.

Proposals must be received at the CMS Executive Office no later than **September 30, 1999**. Four copies of each proposal as well as a self-addressed envelope must be provided by the applicants.

**Proposals that do not comply with the above guidelines or that are late or incomplete will not be considered.**

Proposals should be sent to the following address:  
1999 CMS Endowment Grants Competition  
Canadian Mathematical Society  
577 King Edward, Suite 109  
P.O. Box 450, Station A  
Ottawa, Ontario  
K1N 6N5

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La Société mathématique du Canada (SMC) est heureuse d'annoncer la tenue d'un nouveau concours de bourses pour le financement d'activités qui contribuent à l'essor global de la communauté mathématique. Une partie des recettes annuelles tirées du Fonds de dotation de la SMC servira à financer de telles activités. Le Comité d'attribution des bourses du fonds de dotation (CABFD) se chargera d'évaluer les propositions et d'attribuer les bourses.

Les propositions doivent être conformes à l'objectif et à l'énoncé d'intention de la SMC :

La Société mathématique du Canada s'est donnée pour objectif de promouvoir et de favoriser la découverte et l'apprentissage des mathématiques, et les applications qui en découlent. Son énoncé d'intention est le suivant :

1. Regrouper et appuyer les mathématiciens canadiens en favorisant la communication et l'adhésion à grande échelle, en commanditant diverses activités et en établissant des partenariats avec des associations professionnelles semblables à la nôtre.
2. Encourager la recherche mathématique en diffusant les résultats de recherches en cours aux spécialistes et aux non-spécialistes, en faisant reconnaître publiquement les travaux de chercheurs et en collaborant avec les instituts de recherche et les organismes subventionnaires.
3. Favoriser l'apprentissage des mathématiques en réalisant des projets avec des professeurs de mathématiques de tous les niveaux, en faisant connaître les progrès dans l'enseignement et en établissant des partenariats avec les ministères de l'éducation provinciaux et les organismes voués à l'apprentissage des mathématiques.
4. Défendre les mathématiques en créant des initiatives visant à expliquer, à promouvoir et à mieux faire connaître la discipline, en organisant des activités parascolaires et en encourageant les partenariats avec les sociétés privées, les gouvernements et les organismes à but non lucratif.

Un demandeur ne peut présenter qu'une proposition par concours en tant que demandeur principal. Les propositions doivent venir de membres de la SMC. S'il s'agit d'un projet conjoint, au moins un des demandeurs principaux doit être membre de la SMC.

Le CABFD évaluera les projets qui s'étalent sur un maximum de trois ans. Les projets s'échelonnant sur plusieurs années seront toutefois financés en fonction des fonds dont disposera le Comité l'année de la demande. De façon générale,

le Comité se limitera aux propositions dont le financement demandé n'excède pas 5 000 \$ par année.

Le CABFD accordera la priorité aux propositions pour lesquelles le financement de la SMC sera égalé ou pour lesquelles la SMC est la seule source de financement naturelle. Les possibilités d'obtenir un financement égal à celui de la SMC ou de recevoir des fonds d'autres sources doivent être clairement indiquées dans la proposition.

Si les demandeurs prévoient tirer une valeur financière durable du projet, ils doivent l'indiquer et expliquer ce qu'ils ont l'intention d'en faire.

Les propositions doivent être brèves (deux pages au plus) et présentées à double interligne, avec des marges de 2,5 cm et une police de taille 12 points. Elles comprendront également un résumé de 100 mots ou moins et porteront mention de l'organisme auquel le chèque devra parvenir si la proposition est acceptée. Tous les demandeurs principaux doivent fournir un curriculum vitae d'au plus deux pages, qui comprendra une description du financement demandé ou des fonds dont ils disposent déjà relativement au projet en question.

Les propositions doivent parvenir au bureau administratif de la SMC au plus tard **le 30 septembre 1999**, en quatre exemplaires et accompagnées d'une enveloppe préadressée.

**Toute proposition en retard, incomplète ou non conforme aux directives ci-dessus sera rejetée.**

Envoyer les propositions à l'adresse suivante :  
 Concours de bourses du fonds de dotation 1999  
 Société mathématique du Canada  
 577, avenue King-Edward, bureau 109  
 C. P. 450, succursale A  
 Ottawa (Ontario) K1N 6N5

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## CALL FOR NOMINATIONS / APPEL DE CANDIDATURES

### Editors-in-Chief - Canadian Mathematical Bulletin Rédacteurs-en-chef - Bulletin canadien de mathématiques

The term of office of the present Editors-in-Chief of the Canadian Mathematical Bulletin will end December 31, 2000.

The Publications Committee of the CMS now invites nominations for the next Editors-in-Chief to serve a five year term.

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

- A curriculum vitae
- An expression of views of the publication indicating if any changes in direction or policy are contemplated
- Since editorial responsibilities often necessitate a lessening of responsibilities in an individual's normal

work, applicants should indicate that they have the support of their university department and, in particular of their head of department.

The Publications Committee will communicate its recommendation to the Executive Committee of the CMS in April 2000. Any input from the mathematical community concerning this important selection process is welcome.

Applications (with supporting material) and/or comments should be sent to the address below:

The deadline for the receipt of applications is **November 15, 1999**.

Le mandat des rédacteurs-en-chef actuels du Bulletin canadien de mathématique prendra fin le 31 décembre 2000.

Le Comité des publications de la SMC sollicite des mises en candidatures 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 directions ou de politiques sont envisagés
- Puisque les responsabilités de rédaction nécessitent

souvent une réduction dans la charge normale de travail, les candidats devraient indiquer qu'ils(elles) ont l'appui de leur département et en particulier, de leur chef de département.

Le Comité des publications transmettra ses recommandations au Comité exécutif de la SMC en avril 2000. Les commentaires de la communauté mathématique au sujet de cette importante sélection sont bienvenus.

Les mises en candidatures (avec matériel à l'appui) et/ou commentaires devraient être acheminés à l'adresse qui suivent:

L'échéance pour la réception des mises en candidature est le **15 novembre 1999**.

**James A. Mingo**  
**Chair / Président**  
**CMS Publications Committee / Comité des publications**  
**Department of Mathematics and Statistics**  
**Queen's University**  
**Kingston, Ontario**  
**K7L 3N6**

## MINUTES OF THE GENERAL MEETING

Holiday Inn Kingston Waterfront  
 Once Princess Street, Kingston, Ontario  
 December 13, 1998

**Draft pending approval.**

The meeting opened at 5:30 p.m. with 33 members in attendance.

### 1. Adoption of the agenda

The agenda was adopted as circulated, with the additional of a report from CUMC.

### 2. Minutes of the previous meeting

#### G-98-4 MOTION (Batten/Rosebrugh)

That the minutes of the Annual General Meeting, held June 14, 1998 at the University of New Brunswick - Saint John, Saint John, New Brunswick, be accepted. *Carried Unanimously*

### 3. Matters Arising

There were no matters arising from the minutes.

### 4. President's Report

#### 4.1 Strategic Planning

The Board of Directors has accepted the final report of Task Force # 3 on the Endowment Fund. An Endowment

Grants Selection Committee is to be created which will review proposals for projects to be funded from the income from the Endowment Fund. The Committee anticipates funding 10-20 small projects per year, with individual grants of the order of \$5,000 per year. In the first competition, the total amount available will be approximately \$45,000, the total amount awarded to World Math Year 2000 projects. In subsequent years, the amount available should be approximately \$60,000.

The first Call for Proposals will be released in April 1999 and the EGSC will hold its first meeting in June 1999. The first awards will be made at the Winter 1999 meeting in Montreal.

Four more Task Forces have been formed. Task Force #4 on Publications will be chaired by Keith Taylor (Saskatchewan). Task Force #5 on Finances and Fundraising will be chaired by Lynn Batten (Manitoba). Task Force #6 on Support of the Mathematics Community will be chaired by Kathryn Hare (Waterloo). Task Force # 7 on Communications will be chaired by Georg Schmidt (McGill).

The Task Force on Budget Policy had asked for a review of electronic services and Camel. That Committee has also been struck, with Ian Goulden (Waterloo) as Chair.

#### 4.2 World Math Year 2000

The premier CMS event for the WMY2000 will be a joint meeting with the CAIMS and other organizations in Hamilton. This will be a four day meeting and a joint steering committee has established a core programme for this very special Summer Meeting. Ian Hambleton (McMaster) is the

Meeting Director.

Kane announced the following special grants approved by the Finance and Executive Committees. The financial support for these projects will be taken from the annual income from the Endowment Fund.

Project	Grant
Montreal Subway Posters	\$10,000
Women in Math Poster	2,500
Sherbrooke Exhibit	10,000
Manitoba Travelling Exhibit	5,000
Virtual Canadian Math Trail	5,000
Math Camps	8,000
Grants for Public Appreciation in Mathematics	5,000
<hr/>	
Totals	\$45,500

The Executive will review the progress of these projects in April and will be suggesting collaboration between projects.

### 5. Executive Director and Secretary's Report

Wright outlined the changes that have taken place at the Executive Office and the redistribution of some tasks. The August closing will be amended to ensure minimum disruption in Society programmes.

The subscription publications are appearing on time. The 1998 Directory will soon be available. The 1999 Publications Catalogue has recently been released. Electronic versions of both these publications should be available in due course. The electronic version of the Directory will be updated periodically.

The American Mathematical Society has agreed to full reciprocity and the MAA is still considering it. The timetable for the implementation of the AMS/CMS reciprocity agreement is now being determined.

Wright noted that the registration for Winter 1998 was approaching record levels and congratulated the organizers for the large number of interesting sessions and for their efforts in making this a most successful meeting.

### 6. Treasurer's Report

#### 6.1 Operations Fund Budget 1999

Sherk presented his report. This is the first complete calendar year since the change to a December 31 year-end. We are foreseeing a slight surplus at year-end. He thanked all the Committee Chairs and Editors for their care in keeping expenses low.

The 1999 Budget was approved by the Board of Directors with an overall deficit of \$39,000. Increased expenses include increases in course replacements and a more expanded travel budget for committees. We anticipate that our different approach to fund raising will be fruitful.

### 7. Reports from Committees

**Women in Mathematics Committee:** Statistics show that women make up approximately 18% of those attending CMS semi-annual meetings. Approximately 14% of speakers are women. Organizers were invited to look at the Women in Math database on Camel for names of possible speakers.

The Committee has decided on the women to be included in the WMY2000 poster.

**Research Committee:** The Committee is happy to see the increase in the number of participants and in the number of self-funded sessions at CMS meetings. The organizers for the special Summer 2000 meeting at McMaster are looking for additional sessions and members were invited to contact the Meeting Director, Ian Hambleton. The sites for semi-annual meetings have been proposed to December 2006.

**Publications Committee:** Three new associate editors have been appointed to the CJM-CMB Editorial Board. Peter Borwein announced that the CMS Advanced Book Series has been moved from John Wiley & Sons to Springer-Verlag. The purchase price for new volumes should be reduced and the income for the CMS should be increased.

The subscription rates for the year 2000 have been simplified.

**Nominating Committee:** A large slate of new committee members has been approved by the Board. The Nominating Committee has recommended that the Government Policy Committee be dissolved and the tasks redistributed. Work continues on this restructuring. The Nominating Committee supported the formation of a new Student Committee. Terms of Reference are being developed.

**Mathematical Olympiads Committee:** Tingley reported that the 1998 COMC was written by 3,700 participants. The decrease was due largely to disruptions in the Ontario teaching system. Invitations to write the CMO will go out in January.

Last year's IMO team did very well. This year's Winter Training Camp will be held at York University in January. The Summer Training Camp will be held at the University of Waterloo in July. The National and Regional Math Camps are developing well. Ravi Vakil ran a highly successful camp at Waterloo last summer.

The Committee is seeking a new Chair for the CMO Committee.

Responsibility from the ATOM Series has been transferred to the Publications Committee.

Kane thanked Tingley for assuming the Chair of the Mathematical Olympiads Committee a year earlier than scheduled.

**International Affairs Committee:** A report on the 1998 IMU can be found in the CMS Notes.

**Human Rights Committee:** The Committee continues to look into the case of Prof. Ahn Jae-Ku, who remains imprisoned in South Korea.

The Committee is also examining the situation for young mathematicians. A reformulated statement regarding this matter will be forwarded to the Executive in the new year.

**Government Policy Committee:** The 1997 Survey is being analyzed and the 1998 survey will be in departments in February 1999.

**Fund Raising Committee:** The focus of this year's campaign is on meetings between the Executive Director and CEOs of companies identified as having some connection with the development of mathematics. Kane extended thanks to Rosaria Morelli and Lesya Balych for their support. Sun Life has agreed to give \$10,000 for the CMO and Imperial Oil will be donating \$15,000 towards Math Camps. The Bank of Montreal, Bell Canada and Xerox have also shown interest.

**Finance Committee:** The CMS has adopted a passive management strategy for its investments and management will move to Toronto Dominion in early 1999. The Finance Committee and the Investment Advisory Group will decide on the asset mix. Currently, the asset mix accepted by the IAG and the Finance Committee is approximately 50% Bonds, 20% Canadian equities, 20% US equities and 10% foreign equities.

**Electronic Services Committee:** In the next few months, the ESC will be providing materials to aid the external review of electronic services and Camel.

All journals are now on-line and Camel East will soon be adopting more responsibility for CMS materials appearing on

the site.

**Education Committee:** Orzech noted the high level of cooperation between the CMS and other organizations for the organization of the Winter 98 meeting. He extended his thanks to the Fields Institute, PIMS, MSTE (the Mathematics Science and Technology Education Group at Queen's Faculty of Education) and the Queen's Instructional Development Centre.

The education programme for the Summer 2000 meeting will be developed by a joint group from CMS and CAIMS.

He described the changes in the structure of the Education Committee, noting that there will now be one single sub-committee considering grants for projects focusing on the Public Appreciation of Mathematics.

### 8. Other Business

Daniel Piché and Benoit Charbonneau are trying to identify students which could go to the 1999 CUMC in St. John's, Newfoundland. It is hoped that students from McMaster University will attend and invite the CUMC to come to McMaster in June 2000 and participate in the joint meeting.

PIMS will be sending one student from each participating university. It was hoped that the CRM and the Fields Institute might follow this example and provide some funding for other students to attend.

### 9. Adjournment

The meeting adjourned at 6:45 p.m.

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Please arrange for three letters of reference to be sent, in confidence, directly from the referees. The position is subject to final budgetary approval.



## NEWS FROM DEPARTMENTS

### University of Alberta, Edmonton, AB:

Appointments: Subash Lele, Statistics, Associate Professor, July 1, 1999. Zuowei Chen, Analysis, Associate Professor, July 1, 1999.

Promotions to Full Professorship effective July 1, 1999: Jacques Carrière, Wieslaw Krawcewicz and Rene Poliquin.

Retirement: Ata Al-Hussaini, July 1, 1999.

### University of British Columbia, Vancouver, BC:

Retirement : Stanley Page, June 30, 1999

Awards: Jingyi Chen, Sloan Fellowship 1999-2001.

### Concordia University, Montreal, PQ:

Visitor: Ghislain Léveillé (Laval), Actuarial Mathematics, January 1 to December 31, 1999.

### McGill University, Montreal, PQ:

Promotion: I. Klemes, to Associate Professor, from June 1998.

Appointments: Eyal Gander (Number Theory) and Martin Gander (Scientific Computing), Assistant Professors, from June and August 1999.

Retirements: M. Herschorn (August 98); A. Evans (August 98); J.R. Choksi (August 99); P. Koosis (August 99); J. Turner (August 99).

Resignations: L. Jeffrey, R. Murty, and M.G. Gu.

Awards/Distinctions: William O.J. Moser (Emeritus Professor); Michael Barr (Peter Redpath Professor of Mathematics); John Toth, (Andre-Aisenstadt Prize); Sherwin Maslowe has been invited by the Department of Mechanical Engineering at Berkeley for four weeks during the Spring of 1999 as a distinguished visitor with the title "Russell Severance Springer Professor".

Visitors: Victor Harnik (Haifa), Mathematical Logic, September 1, 1998 to March 15, 1999; Bulat Khabibullin (Bashir State Univ), Analysis, September 22, 1998 to November 11, 1998; Brian Steer (Hertford College), Diff. Geometry and Topology, September 1, 1998 to December 8, 1998; A. Valdes Morales (Univ. Complutense) Diff. Geometry, September 29, 1998 to February 28, 1999.

### Royal Military College, Kingston, ON:

Appointments: Marcel L'Abbé, Professor, January 1, 1999. Zuowei Chen, Analysis, Associate Professor, July 1, 1999.

Promotions to Full Professorship effective July 1, 1998: Lucien Haddad, David Wehlau.

### University of Saskatchewan, Saskatoon, SK:

Promotion to Full Professorship effective July 1, 1999: Alex Chigogidze.

Death: Ruth Taylor, retired Assistant Professor, February 22, 1999.

### Simon Fraser University, Burnaby, BC:

Appointments: Adjunct Professors: Heinz Bauschke (Pure); Rob Balshaw (Statistics); John Spinelli (Statistics); Tao Tang (Applied)

Retirement: B. A. Alspach, early retirement effective September 1, 1998.

Resignation: Tao Tang resigned as Associate Professor effective January 1, 1999.

Awards/Distinction: Michael Stephens was awarded an International Research Professorship at the Center for Research in Mathematics (CRM), Universidad Autonoma de Barcelona in 1998.

Sabbatical Visitors: Peter Cass (Assoc. CECM Member); Francis Clarke; Hongbing Fan; June Lester; Ray Littler; John A. Mackenzie; John Ogilvie; Jian Qi; Quan (George) Zheng; Hirosho Saigo.

### University of Windsor, Windsor, ON:

Death: Derrick S. Tracy, Professor Emeritus, passed away suddenly on December 27, 1998. After graduating from Lucknow (India) and Univ. of Michigan, he joined the Dept of Mathematics in 1965 and founded the Statistics program. He has supervised 12 doctoral dissertations and several Master's theses. He retired in 1998.

### NOTICE

The Executive Office will be closed for two weeks this summer from **August 2nd to the 13th inclusive**.

### AVIS

Le Bureau d'administration sera fermé pour deux semaines cette été du **2 au 13 août**.

## CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

### MAY 1999

**11–12** Coxeter Lecture Series, (The Fields Institute, Toronto, Ontario) [www.fields.utoronto.ca](http://www.fields.utoronto.ca)

**16–23** 37th International Symposium on Functional Equations (Marshall University, Huntington, WV)  
*ebanks@marshall.edu; janos@aris.ss.uci.edu*

**18–21** Vision Interface (VI'99)/Quality Control By Artificial Vision (QCAV'99) (Hotel Delta, Trois-Rivières, Québec)  
<http://www.dmi.usherb.ca/conferences/>

**20–24** The Twenty-Seventh Canadian Operator Theory and Operator Algebras Symposium (University of Prince Edward Island, Charlottetown)  
<http://www.math-cs.upei.ca/people/gmacdon/cosy/>

**29–June 1** CMS Summer Meeting / Réunion d'été de la SMC (Memorial University of Newfoundland, St. John's)  
<http://cms.math.ca/CMS/Events/>

### JUNE 1999

**3–4** Mathematics Education at the Secondary and Tertiary levels (Brock University, St. Catherines, Ontario)  
<http://spartan.ac.brocku.ca/mathconf/default.html>

**4–8** Canadian Mathematics Education Study Group (Brock University, St. Catherines, Ontario)  
<http://spartan.ac.brocku.ca/mathconf/default.html>

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

**7–9** Canadian Operational Research Society National Conference. (Windsor, Ontario)  
<http://www.cors.ca/windsor/>  
*M. Hlynka hlynka@uwindsor.ca*

**11–13** Canadian Applied and Industrial Mathematics Society Annual Meeting (Université Laval, Québec, Québec)  
*Roger Pierre: rpierre@mat.ulaval.ca*

**13–17** Conference on the Mathematics of Public-Key Cryptography (Fields Institute for Mathematical Sciences, Toronto, Ontario)  
*Gary Walsh, Chair: gwalsh@mathstat.uottawa.ca*  
<http://fields.utoronto.ca/publickey.html>

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

**14–24** Mathematical Problems arising from Biology  
*probability@fields.utoronto.ca; www.fields.utoronto.ca*

**20–24** The Sixth Conference of the Canadian Number Theory Association (CNTA'99) (University of Manitoba, Winnipeg)

### MAI 1999

*P.N. Shivakumar: insmath@cc.umanitoba.ca*  
<http://www.iims.umanitoba.ca>

### JULY 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/>

**10–22** 40th International Mathematical Olympiad (Romania)

**15–17** 2nd Joint Meeting of British Society for History of Mathematics and Canadian Society for History and Philosophy of Mathematics / Société canadienne d'histoire et de philosophie des mathématiques  
(IHPST, Toronto) *cfraser@chass.utoronto.ca*

**26–Aug 4** International Conference and Workshop on Valuation Theory (Saskatoon, Saskatchewan)  
*Franz-Viktor Kuhlmann (fvk@math.usask.ca)*

### AUGUST 1999

**July 26–Aug 4** International Conference on Valuation Theory and its Applications, Conference dedicated to Paulo Ribenboim (University of Saskatchewan)  
*fvk@usask.ca; http://math.usask.ca/fvk/Valth.html*

**23–28** First 3 on 3 Canada-China Math Congress (Tsing Hua University, Beijing, China) <http://www.pims.math.ca>

### NOVEMBER 1999

**14–18** International Conference on Mathematics Education into the 21st Century (Cairo, Egypt)  
*Dr. A Rogerson: arogers@mgs.vic.edu.au*

### DECEMBER 1999

**11–13** CMS Winter Meeting / Réunion d'hiver de la SMC (Université de Montréal)  
<http://cms.math.ca/CMS/Events/>

### JUNE 2000

Canadian Mathematics Education Study Group Meeting (UQAM, Montreal) *Dates to be announced*

**4–7** Annual Meeting of the Statistical Society of Canada (Ottawa, Ontario) *André Dabrowski: adrsg@uottawa.ca*

**8–13 MATH 2000 (McMaster University, Hamilton, Ontario)**

Participating Societies include the Canadian Mathematical Society (CMS) and the Canadian Applied and Industrial Mathematics Society (CAIMS), the Canadian Operational Research

### JUILLET 1999

### JUIN 1999

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### JUIN 2000

Society (CORS), the Canadian Symposium on Fluid Dynamics (CSFD), the Canadian Society for the History and Philosophy of Mathematics (CSHPM) and the Canadian Undergraduates Mathematics Conference (CUMC).

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

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

**JULY 2000****JUILLET 2000**

**11–24** 41st International Mathematical Olympiad (Korea)

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

**22–24** American Mathematical Society Central Section Meetings (University of Toronto)

<http://www.ams.org/meetings/>

**DECEMBER 2000****DÉCEMBRE 2000**

**10–12** CMS Winter Meeting / Réunion d'hiver de la SMC (University of British Columbia, Vancouver, B. C.)

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

**JUNE 2001****JUIN 2001**

Canadian Mathematics Education Study Group Meeting (University of Alberta, Edmonton)

Annual Meeting of the Statistical Society of Canada (Vancouver, British Columbia)

**SUMMER 2002****ÉTÉ 2002**

25th Anniversary Canadian Mathematics Education Study Group Meeting (Queen's University, Kingston)

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