



CMS

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FROM THE PRESIDENT'S DESK



Richard Kane

(voir la page 5 pour la version française)

In this report, I will focus on three initiatives which were considered by the CMS Executive and Board at our Kingston Winter meeting in December. But before moving to these items, I want to warmly congratulate all of the organizers of the meeting for their very successful efforts. The meeting had just under 400 registrants, a new record for participation in a CMS meeting. This large number of people was clearly attracted by the extensive program involving over 200 speakers in 16 different sessions covering a diverse range of mathematical themes. And a number of these sessions were organized via the initiative of individual members. The CMS has been making efforts to increase participation at meetings in precisely this fashion and it is gratifying to see this new format work so effectively as

it did at Kingston. I want to thank all the organizers of the meeting, notably the joint Meeting Directors, Tony Geramita and David Wehlau, and the Local Arrangements Committee, Leo Jonker and Fady Alajaji, for all their work. The session organizers, many from the Kingston mathematical community, displayed great initiative and are the key reason for the success of the meeting.

Let me now turn to a number of developments within the CMS, all of which were discussed at the December Executive and Board meetings. Firstly, the Kingston meeting marked the official establishment of one of the most exciting developments within the CMS in recent years, namely the CMS Endowment Grants (EG) Program. The Board accepted the final report of the Endowment Fund Task Force, chaired by Eddy Campbell, with its recommendation for the establishment of the EG program. For many years we have been steadily building up the Endowment Fund to a current value of \$1.46 million. 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 (the actual amount will be determined each year by the Finance Committee). As a general statement of intent, the Task Force report supported the funding of "proposals which contribute to the broader good of the mathematical community as defined in the

(continued on page 4)

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EDITORIAL



S. Swaminathan

Richard Feynmann, who was rated the world's smartest man of his time, happened to sit next to a Danish princess on one occasion. She is said to have remarked that they couldn't discuss his subject, Physics, because nobody knows anything about it. Feynmann replied that, on the contrary, that's just what everyone does discuss – things they know nothing about, the weather, social problems, psychology, international finance, etc.

It is clear that if Mathematics were substituted in the place of Physics in the above remark Feynmann's reply would still hold. Indeed, Richard Feynmann, Paul Dirac and many other Nobel laureates were awarded their prizes for work which largely depended on their mathematical skills. It is unfortunate that physics seems to be more in the public eye than mathematics, and this is, perhaps, due to the fact that there is a Nobel prize for physics and not one for mathematics. Mathematicians may regard Fields medal as equivalent to the Nobel prize but it is not so well known to the public. This raises the question of increasing public awareness of mathematics. In the wake of Andrew Wiles' solution of Fermat's Last Conjecture, there has been some exposure of the beauty of mathematics and importance of its long standing unsolved problems. The momentum created by such efforts should not be allowed to wane. We must keep it up.

The CMS organized public lectures by Professors F. W. Lawvere and H. S. M. Coxeter during its meetings at Saint John and Kingston. Some university departments arranged "Math in the Mall" shows and "Math Trails" where staff gave young students some hands-on mathematics activities. These steps are commendable but we need more activities to help promote the appreciation of mathematics.

Please think about this matter and send us your views and suggestions.

Richard Feynmann, considéré comme l'homme le plus intelligent de son époque, se trouvait un jour aux côtés d'une princesse danoise lors d'un dîner. La princesse lui aurait dit qu'il était impossible de discuter de son domaine, la physique, car personne n'y connaît rien. Feynmann lui répondit qu'au contraire, les gens discutent toujours de choses auxquelles ils ne connaissent rien, comme la météo, les problèmes sociaux, la psychologie ou la finance internationale.

De toute évidence, si l'on remplaçait "la physique" par "les mathématiques" dans la remarque ci-dessus, la réplique de Feynmann serait tout aussi vraie. Richard Feynmann, Paul Dirac et de nombreux autres lauréats du prix Nobel ont été honorés pour des travaux largement tributaires de leurs connaissances mathématiques. Il est dommage que la physique soit plus en vue que les mathématiques, mais c'est peut-être parce qu'il existe un Nobel de physique, mais non un Nobel des mathématiques. Même si les mathématiciens considèrent la médaille Fields comme l'équivalent d'un prix Nobel, cette distinction n'est pas très connue du public. D'où l'importance de sensibiliser davantage la population aux mathématiques. Dans le sillage de la solution d'Andrew Wiles à la dernière conjecture de Fermat, il a beaucoup été question de la beauté des mathématiques et de l'importance des problèmes toujours non résolus. Tâchons

de profiter encore longtemps des circonstances favorables résultant de tels efforts et continuons sur cette lancée.

À l'occasion de ses Réunions de Saint John et de Kingston, la SMC a organisé des conférences publiques données par les professeurs F. W. Lawvere et H. S. M. Coxeter. Certains départe-

ment universitaires ont tenu les activités "Plein feux sur les mathématiques" et "Sentiers mathématiques", où des professeurs organisent, à l'intention de jeunes élèves, des activités mathématiques pratiques. Il s'agit certes là d'initiatives fort louables, mais nous devons monter d'autres activités pour

faire reconnaître encore davantage les mathématiques.

Pensez-y et faites-nous part de vos opinions et de vos suggestions.

S. Swaminathan

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.

Les rédacteurs des Notes acceptent les lettres en français ou en anglais portant sur un sujet d'intérêt mathématique, mais ils se réservent le droit de les comprimer. Les lettres acceptées paraîtront dans la langue dans laquelle elles nous sont parvenues. Les lecteurs pourront nous joindre au bu-

reau administratif de la SMC ou à l'adresse suivante : notes-lettres@smc.math.ca.

In the Editorial of the CMS Notes Vol 30 no 6 there was a small inaccuracy. *Ars Combinatoria* is currently being edited from the Department of Mathematics at the University of Winnipeg (and not Manitoba). I am editing the journal and took over from William Kocay in May 1997.

*Ortrud Oellermann (University of Winnipeg)
December 9, 1998*

EDUCATION NOTES

Ed Barbeau, University of Toronto

These are lively times for mathematics education at every level. Too lively, perhaps, with change thrust upon us that may not be well grounded or given ample breathing space. One purpose of this section is to inform you about current developments in research, curriculum and programs, and professional meetings, and to let you know how you can get further information. However, we need to assimilate what is going on. Issues of mathematics education are subtle and complex; few (if any) protocols of instruction are assured of consistent success. So we need to take stock and refine our approaches; I hope this column will be a forum for doing so. Finally, we should celebrate our achievements. The face of education has changed over the past three decades and we approach our task with a bet-

ter understanding of what might work and why. There is now a broader array of options for teaching and learning. This is a place for news about exemplary programs and about awards that our members receive for educational merit.

But I need your help. This is a large country and together we embrace a wide range of activities: teaching nonstandard courses, investigating research problems in education; designing new curricula; reaching out to the public and younger students. Tell us what is going on in your part of the world and what are your opinions.

Here are some areas within the scope of this column for which I will be soliciting articles:

(a) **School reform:** new curricula in various regions of Canada; provin-

cial examinations; structural changes such as the demise of the department head and area coordinators; preparation and professional development of teachers; manifestos such as the forthcoming *Principles and Standards for School Mathematics* from the *National Council of Teachers of Mathematics*.

(b) **Extra-curricular dissemination of mathematics:** public events; use of television and the press; films and videos; enrichment; books and software.

(c) **Competitions:** contests suited for various levels of ability and attainment; mathematics rallies; team events; science fairs.

(d) **Developments in college and university courses and programs:** multidisciplinary study; group work; writing; connections to the world off

the campus (work study, consultation, professional experience); nonstandard courses; courses for special populations (such as future teachers).

(e) Educational research: model and experimental programs; exemplary practice; assessment; understanding and using mathematical concepts, processes and conventions; productive and unproductive perceptions of students and teachers.

University courses

If the above seems too broad, let me suggest a place to start our deliberations. The lecture is the traditional mode of communication between professor and student at university. When it works, it can be a highly effective and efficient way of conveying a worldview of mathematics, sketching out arguments and techniques and highlighting significant points. However, it depends on an audience with appropriate sophistication and experience in mathematical discourse, an audience that is prepared in both attitude and background to receive and reflect on what is being said. This is more than can be expected for most students, at least initially, and so a number of pedagogical alternatives have been spawned.

The traditional lecture should not be abandoned, but has to be supplemented by other regimes to encourage students to directly engage and express mathematical ideas, and to enable the teacher to diagnose and ameliorate student difficulties. While courses in the

past have treated a specific mathematical area, such as linear algebra, new courses have emerged with a different organizing principle that cuts across the usual boundaries: courses in mathematical rigour, problems and research seminars, and the like. Some courses might treat a narrow topic but expose its links to a variety of major areas; one such topic might be Fourier Series. An advanced problem solving seminar for mathematics specialists might develop heuristic skills, consolidate material from earlier courses and be the occasion of dealing with useful topics that never seem to find their way into the core courses, such as the Pigeon-hole Principle or generating functions.

If your institution has an innovative program or courses outside the standard mould, please share information on it with the readers of the *CMS Notes*. Tell us about the purpose and syllabus, how it fits into the overall mathematics program, the characteristics of the students taking it, and how it functions. Do you have any recommendations for others who might wish to emulate your institution?

Mathematical acceleration

Those of us who have had contact with students who are accelerated in their school program and who have some talent understand how tough it is to get a proper take on the situation. How is the student assessed? Even if the student is bright, is acceleration to higher level courses the right ap-

proach? Recently, I received the following email from a big sister:

I am emailing you regarding the Math program that is for gifted students. Is it only for high school students or do you accept grade school students as well? This is because my Mom told me to ask about it for my little brother who is 9 years old and currently in Grade 4. He is extremely talented in Math and is doing Kumon, a Math program wherein he is in the Level which [is] dealing with Finite and Calculus already. He is the #1 math student in North America and is really gifted. . . .

There are many things such a pupil could be doing mathematically that is appropriate to his age, and the probability that this one is taking the right course of action is likely close to zero. Even if the child is precocious enough to go behind the mechanical processes of combinatorics and calculus to appreciate the underlying concepts and strategies, one still has to wonder whether his talent can be fed in better ways.

With the general weakening of the school curriculum and the inability of most teachers and parents to assess real talent, it has become an urgent problem for our profession to have mechanisms to identify, advise and properly nurture gifted youngsters. At the moment, there are various local and national programs available, but it still seems all too hit-or-miss. Any thoughts on the matter?

(continued from page 1)

CMS purpose statements, especially if CMS funds can be leveraged". The report also favoured "funding many smaller projects rather than fewer bigger projects." The money will be awarded on a competitive basis by a new standing committee, the Endowment Grants Committee (EGC). The EGC will meet at each CMS Winter meeting and make its funding decisions for the coming year. The Nominating Committee is presently determining the membership of the first EGC. It is still not certain if the first competition will take place this year or next. If a competition does take place this year, then a

call for proposals will be made this spring with an anticipated submission date of September 15. A factor which needs to be considered regarding the initiation of the EG program is the fact that the Board has approved the use of some annual income from the Endowment Fund to partially support a number of WMY2000 projects. The Finance Committee and the Executive will make a decision in April as to whether there is enough additional income to also begin receiving applications during 1999 for the EG competition. It seems clear that a 1999 EG competition will be at a reduced scale compared to future ones.

To turn to WMY2000, in my November report I men-

tioned that the Executive was considering the Society's participation in the World Mathematical Year. In October the Executive received the report of an ad-hoc committee, chaired by Bernard Hodgson, which had the mandate of formulating projects which might occur during the year 2000 with the partial sponsorship of the CMS. The report suggested a wide range of projects mainly focused on improving the public awareness of mathematics. The Society's approach has been to regard the year 2000 as representing an exceptional occasion to make mathematics visible throughout Canada. The Executive accepted the report and invited a number of individuals to submit funding proposals. In December, the Board approved the commitment of potentially \$45,000 from the annual income from the Endowment Fund to provide partial support for the following projects:

Posters in Montreal Public Transportation (Christiane Rousseau)

Posters for Women in Mathematics (Shelley Wismath)

CCARMS Mathematical Exhibit (Doug Farenick)

AMQ/Sherbrooke Museum Mathematical Exhibit (Bernard Courteau)

Virtual Canadian Math Trail (Eric Muller)

Math Camps (Daryl Tingley)

Public Lectures at Provincial Mathematical Associations (Morris Orzech)

The CMS member responsible for each application is identified in the above list. Choices were based on the desire to select projects which had readily identifiable organizers, which seemed capable of being organized within the next 6 months, and which adhered to the themes. We would like to have at least one project taking place in each part of Canada. In most cases the money awarded is "seed money" and more funding will be required to make the project viable.

Motivated by the WMY 2000 theme, the CMS Summer Meeting for the year 2000 will be a joint meeting involving the Canadian Applied and Industrial Mathematics Society (CAIMS) and the Canadian Symposium on Fluid Dynamics (CSFD). This joint meeting will take place at McMaster University during June 10-13 of the year 2000.

A third item dealt with by the Executive was Strategic Planning. A major review of CMS activities is now underway. The Executive has been busy implementing the Strategic

Planning document which was approved by the Board at last June's meeting. The document provides for a comprehensive review in order to plan for the future of the CMS. The aim is to "review all aspects of CMS operations and bring forward recommendations for their development and/or modification". This review and planning will take place via a series of task forces. Four task forces (Finance and Fundraising, Publications, Communications, Support of the Community) were established last fall. All four of these task forces are scheduled to report within the year. The members of these task forces (with the chair listed first) are:

Publications: Keith Taylor, Karl Dilcher, Hershy Kisilevsky, Nancy Reid

Finance and Fundraising: Lynn Batten, Kathy Heinrich, Robert Woodrow

Support of the Community: Kathryn Hare, Doug Farenick, Neal Madras, Jon Thompson, Ravi Vakil

Communications: Georg Schmidt, Veronique Hussin, David Wehlau, Sylvia Wiegand

Further details, including a description and the complete membership of each task force, can be obtained from the CMS website (<http://cms.math.ca/CMS/Projects/1998/future.html>).

The above task forces are actually the second wave of the CMS planning initiative. Three other task forces (Budget and Policy, Board Representation, Endowment Fund) have already completed their work and submitted final reports which have been accepted by the Board. Their final reports are available as well at the CMS website. In particular, a major recommendation of the Budget Policy Task Force was that a review of Electronic Services and of Camel should be carried out. This review committee has now been struck. Its members (with the chair listed first) are: Ian Goulden, Michael Doob, Peter Deutsch, Tom Salisbury and David Rodgers. It is scheduled to report by June.

The final stage of planning will be centred in the Executive and will begin in the second half of this year. A task force on Office Strategies will be established in April. The Executive will have to consider the reports of the various task forces and then develop an overall structure and strategy for the CMS for the initial years of the 21st century. A final report on planning is due by the end of the year 2000.

DU BUREAU DU PRÉSIDENT

(see page 1 for the English version)

Dans le présent rapport, je vous entretiendrai de trois initiatives étudiées par le Comité exécutif et le Conseil de la SMC à la Réunion de Kingston de décembre dernier. Avant d'aller plus loin, toutefois, j'aimerais féliciter chaleureuse-

ment tous les organisateurs de la Réunion des efforts qu'ils ont déployés pour assurer le succès de l'activité. Nous avons accueilli près de 400 participants à cette Réunion, ce qui constitue un record pour une Réunion de la SMC. Nous devons certes ce grand nombre d'inscriptions au programme proposé,

car plus de 200 conférenciers ont pris la parole dans le cadre de 16 séances portant sur une vaste gamme de thèmes mathématiques. Soulignons également qu'un certain nombre de ces séances découlaient d'initiatives individuelles de nos membres. Comme la SMC s'efforce justement d'accroître la participation à ses Réunions de cette manière, il est agréable de constater que ce nouveau format fonctionne si bien. Je tiens à remercier les organisateurs de cette Réunion, particulièrement les codirecteurs, Tony Geramita et David Wehlau, ainsi que le Comité de logistique, Leo Jonker et Fady Alajaji, pour tout ce qu'ils ont fait. Les organisateurs de séances, dont bon nombre étaient issus de la communauté mathématique de Kingston, ont fait preuve de beaucoup d'initiative. C'est d'ailleurs à eux que nous devons, en grande partie, le succès de la Réunion.

Passons maintenant à certaines questions qui ont toutes été abordées aux réunions de décembre du Comité exécutif et du Conseil de la SMC. D'abord, la Réunion de Kingston marquait les débuts officiels de l'une des plus intéressantes entreprises de la SMC des dernières années, soit le programme de bourses du fonds de dotation de la SMC. Le Conseil a accepté le rapport final du groupe de travail sur le fonds de dotation, sous la présidence de Eddy Campbell, qui recommandait la création de ce programme de bourses. Nous enrichissons maintenant depuis de nombreuses années le fonds de dotation, qui s'élève maintenant à \$1.46 million. Nous pouvons désormais commencer à utiliser ce fonds. Selon nos prévisions, nous distribuerons environ 60 000 \$ annuellement (le montant réel sera fixé chaque année par le Comité des finances) dans le cadre du programme de bourses du fonds de dotation de la SMC. Conformément à son énoncé d'intention général, le groupe de travail mentionnait dans son rapport qu'il favoriserait le financement de "propositions qui contribuent au bien-être général de la communauté mathématique tel que défini dans les énoncés d'intention de la SMC, particulièrement s'il est possible d'accroître les fonds de la SMC". Dans ce rapport, on favorise également "le financement de nombreux petits projets plutôt que le financement de quelques projets de grande envergure". Les bourses seront attribuées par voie de concours, par un nouveau comité permanent : le Comité d'attribution des bourses du fonds de dotation (CABFD). Les membres de ce comité se réuniront aux Réunions d'hiver de la SMC et rendront leurs décisions concernant les fonds réservés aux bourses pour l'année à venir. Le Comité des mises en candidature s'affaire actuellement à constituer le premier CABFD. Nous ne savons pas encore si le premier concours sera tenu cette année ou l'année prochaine. S'il y en a un cette année, un appel de propositions sera lancé au printemps, et la date de présentation serait fixée au 15 septembre. Dans le dossier du programme de bourses du fonds de dotation, il faut tenir compte de la décision du Conseil, qui a approuvé l'utilisation d'une partie des revenus annuels du fonds de dotation pour financer (en partie) des activités liées à

l'an 2000, année internationale des mathématiques. En avril, le Comité des finances et le Comité exécutif décideront si le fonds est suffisamment élevé pour lancer aussi le concours des bourses en 1999. Il est toutefois évident qu'un concours organisé en 1999 serait de moindre ampleur que les concours des années suivantes.

En ce qui concerne l'année internationale des mathématiques, j'ai mentionné dans mon rapport de novembre que le Comité exécutif étudiait la participation de la SMC aux activités prévues pour l'an 2000. En octobre, le Comité exécutif a reçu le rapport d'un comité spécial, présidé par Bernard Hodgson, dont le mandat consistait à formuler des projets qui pourraient être réalisés en l'an 2000 et seraient financés, en partie, par la SMC. Un vaste éventail de projets a été proposé dans le rapport, dont la majeure partie visait à sensibiliser davantage la population aux mathématiques. Pour la Société, l'an 2000 représente une occasion exceptionnelle d'accroître la visibilité des mathématiques au Canada. Le Comité exécutif a accepté le rapport et a invité un certain nombre de personnes à présenter des demandes de financement. En décembre, le Conseil a approuvé l'engagement potentiel de 45 000 \$ des revenus tirés du fonds de dotation pour financer partiellement les projets suivants :

- Campagne d'affichage dans les transports publics de Montréal (Christiane Rousseau)
- Affiches de promotion des femmes en mathématiques (Shelley Wismath)
- Exposition mathématique du Central Canadian Alliance for Research in the Mathematical Sciences (Doug Farenick)
- AMQ/Exposition sur les mathématiques au musée de Sherbrooke (Bernard Courteau)
- Sentier mathématique canadien virtuel (Eric Muller)
- Camps de mathématiques (Daryl Tingley)
- Conférences publiques auprès d'associations provinciales de mathématiques (Morris Orzech)

Le membre de la SMC responsable de chaque projet figure à la suite des activités de la liste ci-dessus. On a favorisé les projets dont les organisateurs étaient déjà précisés, dont l'organisation semblait possible au cours des six prochains mois et dont la description correspondait aux thèmes retenus. Nous aimerions qu'au moins une activité se déroule dans chaque région du Canada. Dans la plupart des cas, les sommes attribuées constituent un "fonds de départ"; les organisateurs devront donc trouver des fonds supplémentaires pour réaliser leur projet. Dans l'esprit du thème de l'an 2000, année internationale des mathématiques, la Réunion d'été de la SMC de cette année-là sera intégrée à un événement organisé de concert avec la Société canadienne de mathématiques appliquées et industrielles (SCMAI) et le Symposium canadien sur la dynamique des fluides (SCDF). L'événement se tiendra à l'Université McMaster, du 10 au 13 juin 2000.

Le dossier de la planification stratégique a aussi été étudié

par le Comité exécutif. Une revue exhaustive des activités de la SMC est en cours. Le Comité exécutif en est à la mise en œuvre du document de planification approuvé par le Conseil à la Réunion de juin dernier. Ce document contient l'essentiel d'une importante revue des activités de la Société, revue nécessaire à la planification des années à venir. L'objectif de cet examen est de "revoir tous les aspects des activités de la SMC et de formuler des recommandations quant à leur développement ou à leur modification". Plusieurs groupes de travail procéderont à cet exercice d'évaluation et de planification. Quatre de ces groupes (Finances et collecte de fonds, Publications, Communications et Soutien à la communauté) ont été créés l'automne dernier et doivent présenter leur rapport au cours de l'année. Les membres de ces comités (le nom des présidents figurant en premier lieu) sont :

Publications : Keith Taylor, Karl Dilcher, Hershy Kisilevsky, Nancy Reid

Finances et collecte de fonds : Lynn Batten, Kathy Heinrich, Robert Woodrow

Soutien à la communauté : Kathryn Hare, Doug Farenick, Neal Madras, Jon Thompson, Ravi Vakil

Communications : Georg Schmidt, Veronique Hussin, David Wehlau, Sylvia Wiegand

Pour plus de détails, y compris une de-

scription des groupes de travail et leur composition, on consultera le site Web de la SMC (<http://cms.math.ca/CMS/Projects/1998/future.html>).

Les groupes de travail ci-dessus constituent en fait la deuxième phase de l'exercice de planification de la SMC. Trois autres groupes de travail (Budget et politique, Représentation au Conseil, Fonds de dotation) ont déjà terminé leur travail et présenté leurs rapports finals, qui ont été approuvés par le Conseil. Ces rapports sont aussi publiés sur le site Web de la SMC. Soulignons entre autres l'une des recommandations principales du groupe de travail sur le budget et la politique, qui consistait à revoir les services électroniques et Camel. Ce comité d'examen est maintenant formé, et en voici la composition : Ian Goulden (président), Michael Doob, Peter Deutsch, Tom Salisbury et David Rodgers. Le comité doit présenter son rapport en juin. La dernière étape du processus de planification concernera surtout le Comité exécutif et commencera dans la deuxième moitié de l'année. Un groupe de travail sur les stratégies administratives sera créé en avril. Le Comité exécutif devra étudier les rapports des groupes de travail et dote la SMC d'une structure et d'une stratégie d'ensemble en vue des premières années du 21^e siècle. Un rapport final sur la planification sera remis à la fin de l'an 2000.

AWARDS / PRIX

Le 4^e Prix Adrien-Pouliot



Bernard R. Hodgson

The 4th Adrien Pouliot Award was presented in Kingston, Ontario at the December meeting of the Society to Dr. Bernard R. Hodgson of Laval University.

La contribution de Bernard Hodgson à l'éducation mathématique établit des normes très élevées sur le plan du service et des réalisations. L'éventail

de ses activités est remarquable de plusieurs points de vue. Il a donné à la cause de l'éducation à tous les niveaux, du primaire au postsecondaire. Son engagement est marqué par une longue et étroite collaboration avec les enseignants et les aspirants à la profession, par ses publications, les présentations faites devant des publics de tous niveaux, ainsi que sa participation à des organismes locaux, provinciaux, nationaux et internationaux du domaine de l'éducation mathématique et le rôle d'avant-plan qu'il y a joué. Ses contributions sont importantes, nombreuses et influentes.

L'incroyable énergie, la générosité et les bons conseils de Bernard Hodgson ont été mis à profit au sein de nombreux groupes : l'APAME, le GRMS et l'AMQ au Québec; la SMC et le GCEDM au Canada; et ICMI, ICME et IFIP sur la scène internationale. De manière assidue et efficace, il a déployé

maints efforts pour créer des liens entre les enseignants et les professeurs de mathématiques canadiens de formation différente, et entre les mathématiciens canadiens et leurs collègues d'autres pays. La SMC est fière de remettre à Bernard Hodgson le prix Adrien-Pouliot 1998.

Bernard Hodgson's contributions to mathematics education define a very high standard of service and achievement. The span of his activities is remarkable from a variety of perspectives. His involvement ranges through all tiers, from elementary to post-secondary mathematics education. It is marked by a long record of direct engagement with teachers and teacher candidates, by publications and presentations at all levels, and by participation and leadership in local, provincial, national and international mathematics education organizations. His contributions have been significant, sustained,

and influential.

Bernard Hodgson's remarkable energy, generosity and wise counsel have benefitted numerous groups: APAME, GRMS and AMQ in Québec; CMS and CMESG in Canada; and ICMI, ICME and IFIP internationally. He has worked assiduously and effectively to build bridges between Canadian mathematics educators from different backgrounds, and between Canadian mathematics educators and their colleagues in other countries. The CMS is pleased to grant him the 1998 Adrien Pouliot Award.

The 21st Coxeter-James Lecturer



Henri Darmon

The 21st Coxeter-James Lecture was presented in Kingston, Ontario at the December meeting of the Society by Dr. Henri Darmon of McGill University.

Henri Darmon's most important research is concerned with the celebrated Birch and Swinnerton-Dyer conjecture. This conjecture relates the analytic behaviour of the L-function of an elliptic curve to algebraic and arithmetic information on the group of rational points of the curve. In a series of joint papers with Bertolini, Darmon formulates a p-adic analogue of the Birch and Swinnerton-Dyer conjecture and gives strong theoretical evidence

for it by combining the Kolyvagin-Thaine theory of "Euler systems", the Ihara-Ribet theory of congruences between modular forms, and methods of p-adic uniformization introduced by Cerednik and Drinfeld.

Les plus importantes recherches de Henri Darmon portent sur la conjecture bien connue de Birch and Swinnerton-Dyer. Cette conjecture fait un lien entre le comportement analytique et la fonction L d'une courbe elliptique à l'information algébrique et arithmétique sur le groupe de points rationnels d'une courbe. Dans une série d'articles publiés conjointement avec Bertolini, Darmon formule une analogie p-adic de la conjecture Birch and Swinnerton-Dyer et donne des preuves théoriques très crédibles à cet égard en combinant la théorie Kolyvagin-Thaine des "systèmes Euler" la théorie des congruences Ihara-Ribet entre les formes modulaires et les méthodes d'uniformisation p-adic lancées par Cerednik et Drinfeld.

The 2nd Doctoral Prize



Yuri Berest

The 2nd Doctoral Prize was presented in Kingston, Ontario at the December meeting of the Society to Dr. Yuri Berest of University of Montreal.

Dr. Yuri Berest has established unexpected connexions between wave fronts (the so-called Huygens Hadamard problem), differential equations invariant under reflexion groups and integrable systems. Dr. Berest established a link between the Huygens

principle and the theory of solitons and using the theory of integrable systems, he completely resolved the Hadamard problem for a large class of hyperbolic operators. Using algebraic ideas (reflexion groups), Dr. Berest constructed new classes of variable coefficients hyperbolic operators exhibiting sharp wave-fronts, extending famous results of Petrovski (1945) and Atiyah, Bott, Gårding (1970). The CMS is pleased to grant him the 1998 Doctoral Award.

Yuri Berest a établi des connexions surprenantes entre les fronts d'ondes (le problème de Huygens-Hadamard), les équations différentielles invariantes sous les groupes de reflexion et les systèmes intégrables. Il a établi une connexion entre le principe de Huygens et la théorie des solitons et en utilisant la théorie des systèmes intégrables, il a complètement résolu le problème de Hadamard pour des larges classes d'opérateurs hyperboliques à coefficients variables ayant des fronts d'ondes aigus, obtenant une extension des résultats célèbres de Petrovski (1945) et de Atiyah, Bott, Gårding (1970). La SMC est heureuse de lui accorder cette année le Prix de doctorat.

The Frank and Brennie Morgan Prize

The 1998 Frank and Brennie Morgan Prize for outstanding research by an undergraduate has been awarded to Daniel Biss. The most exciting aspect of his submission was his extension of a category which more closely binds the associations between combinatorial group theory and combinatorial topology. The committee also awarded honorable mention to Aaron Archer, whose submission included two papers on graph theory, introducing new chromatic interpretations for a graph.

Please consider encouraging your students to submit their work, to:

Morgan Prize Committee
c/o Robert M. Fossum, Secretary
American Mathematical Society

Department of Mathematics
University of Illinois
1409 West Green Street
Urbana, IL 61801-2975

The deadline for applications is June 30, 1999. Students who were undergraduates in December 1997 are eligible for the award. One award is given each year, although the committee has also given one or more honorable mentions. The amount of the award is \$1,000.00.

A nomination for the award should include at least one research paper (not necessarily published) and at least one letter of recommendation. For further information please contact Kelly Black <black@vidalia.unh.edu>.

The Ribenboim Prize

The Canadian Number Theory Association proposes to award a prize for distinguished research in number theory to a mathematician who is Canadian or has connections to Canadian mathematics. The prize, to be called the Ribenboim Prize, will normally be awarded every four years in conjunction with a C.N.T.A. meeting. The prize winner will receive a certificate and medal and will give a plenary talk at the associated C.N.T.A. meeting. Normally the prize winner will have received his or her Ph.D. within the last 12 years.

The first prize will be awarded at the 1999 C.N.T.A. meeting. The selec-

tion committee, which will be the scientific programme committee for the associated C.N.T.A. meeting, will be responsible for soliciting nominations and choosing the winner.

To nominate a candidate for the prize send a letter of nomination, a C.V. of the candidate and the names of three referees to:

Professor H. Williams,
Department of Computer Science,
University of Manitoba,
Winnipeg, Manitoba,
Canada
R3T 2N2
email: williams@cs.umanitoba.ca
Nominations close **February 15, 1999.**

CAMEL BYTES

Loki Jörgenson, Simon Fraser University

Wrapping up for 1998, Camel has seen a number of new features added to camel.math.ca. Besides bringing all of the CMS's journals and the CMS Notes on-line, we have seen the addition of a number of new or improved members services.

Now all four of CMS's periodicals (Canadian Journal of Mathematics, Canadian Mathematics Bulletin, Crux Mathematicorum with Mathematical Mayhem, and CMS Notes) are available from Camel in digital form at:

camel.math.ca/CMS/Publications/

Access to CJM, CMB and CRUX with MAYHEM requires either a personal or an institutional subscription. Please encourage your institution to consider adding an on-line subscription to their hardcopy subscription.

In addition to having the journals on-line, Camel also offers all the indexes to all issues of both CJM and CMB. The easiest way to access the indexes is through the Search on either CJM or CMB. Even non-subscribers can look through the indexes (as well as the abstracts of any article). This offers a handy on-line reference to researchers.

Those familiar with CRUX with MAYHEM on-line will find it has been completely overhauled. The new delivery and

publication system used to publish CJM, CMB and the CMS Notes has been applied to CRUX with MAYHEM as well. This should make it more friendly and easier to use for more people. Comments on the appearance and utility of all the publications are welcomed.

In addition, a wide variety of new user services have appeared on Camel. These include the automatic filling of registration and subscription forms for CMS members and subscribers, an effective Employment advertisement mechanism, extensively updated Competitions pages, improved bilingual access, and other features.

Now that Camel has reached a certain level of maturity and that the CMS has significant experience on-line, the Camel Office will be reviewed. An internal review and reorganization is already underway within Camel to improve and streamline its operation. As well, an external review has begun which will look at how electronic services, and Camel in particular, contribute to the Society and its membership. Members should watch for signs of the review committee and offer their input if they are interested.

CMS Membership ...

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

Adhésion à la SMC? ...

Les formulaires d'adhésion 1999 ont été poster. N'oubliez pas de renouveler votre adhésion.

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

Second Announcement

On behalf of Memorial University of Newfoundland and on the occasion of its 50th anniversary, the Department of Mathematics and Statistics extends a warm welcome to all participants in the 1999 Summer Meeting of the CMS.

The meeting follows the usual format with a program encompassing seven symposia, various meetings, and plenary talks including the Jeffery-Williams Lecture and the Krieger-Nelson Prize. The symposia are in Ring Theory, Harmonic Analysis, Representation Theory, Combinatorics, Nonlinear Analysis, Surveys in Mathematics, and Education. In addition, there will be a Graduate Seminar and a Contributed Papers Session.

All scientific activities will take place at Memorial University of Newfoundland, St. John's, Newfoundland, from Saturday, May 29 to Tuesday, June 1, 1999.

Plenary Speakers

Ed Barbeau (Toronto)
Michael van den Bergh (Belgium)
Ranee Brylinski (Pennsylvania State)
Tom Korner (Cambridge)
Douglas Stinson (Waterloo)
Luc Vinet (CRM)

Prize Lectures

The **Jeffery-Williams Lecture** will be given by **John Friedlander**, University of Toronto.

The **Krieger-Nelson Prize** will be given by **Nicole Tomczak-Jaegermann**, University of Alberta.

Public Lecture

To be announced

Special Sessions

By invitation of the Program Committee, there will be special sessions in the following areas.

Combinatorics and its Applications
 (Org: **Nabil Shalaby**, Memorial University of Newfoundland and **Douglas Stinson**, University of Waterloo)

Frank Bennett (Mount St. Vincent), Jeff Dinitz (Vermont), Katherine Heinrich (SFU), William Martin (Winnipeg), Chris Rodger (Auburn), Alexander Rosa (McMaster), Douglas Stinson (Waterloo), Luc Vinet (Montreal).

Education: What Mathematical Competitions do for Mathematics

(Org: **Bruce Shawyer** and **Ed Williams**, Memorial University of Newfoundland)

Ed Barbeau (Toronto), Peter Crippin (Waterloo), Ron Dunkley (Waterloo), Rita Janes (Director of NCTM, co-founder of Newfoundland and Labrador Mathematics League), Tony Gardiner (Birmingham), Shannon Sullivan (MUN student).

Graduate Student Seminar

A special session is being organized for graduate students. Anyone interested in participating in the organization of this program should contact Dr. Hermann Brunner, Meeting Director, at the following address: cms99@math.mun.ca.

Joint CMS-CRM Session
Harmonic Analysis

(Org: **Kathryn Hare**, University of Waterloo)

J. Benedetto (Maryland), M. Christ (Berkeley), C. Finet (Belgium), B. Forrest (Waterloo), Jean-Paul Gabardo (McMaster), E. Granirer (UBC), H. Henig (McMaster), Z. Hu (Windsor), R. Kerman (Brock), Tom Korner (Cambridge), T. Lau (Alberta), D. Oberlin (Florida), J.-O. Ronning (Skode), G. Sinnamon (UWO), S. Wainger (Wisconsin).

Nonlinear Analysis and its Applications

(Org: **Sankatha Singh** and **Bruce Watson**, Memorial University of Newfoundland)

Giampietro Allasia (Torino), Jonathan Borwein (SFU), Tomas Benavides (Sevilla), Francesco DeBlasi (Rome), Antonio Carbone (Calabria), Paul Gauthier (Montreal), Kaz Goebel (Lublin), Farhad Jafari (Wyoming), Ivar Massabo (Calabria), Pier Luigi Papini (Bologna), George Phillips (St. Andrew's), Luigi Rodino (Torino), Virendra Sehgal (Wyoming), Wataru Takahashi (Tokyo), E. Tarafdar (Australia), John Whitfield (Lakehead).

This session is sponsored in part by the Vice-President Academic, Memorial University of Newfoundland.

Perspectives in Ring Theory

(Org: **Eric Jespers**, Vrije Universiteit Brussel and **Edgar Goodaire**, Memorial University of Newfoundland)

Yuri Bahturin (Moscow), Michael van den Bergh (Limburg/Belgium), Jan Okninski (Warsaw), Donald Passman (Wisconsin), Mohan Putcha (North Carolina State), Lex Renner (UWO), Sudarshan Sehgal (Edmonton).

This session is sponsored in part by the Dean of Science, Memorial University of Newfoundland.

Joint CMS-Fields Institute Session Representation Theory

(Org: **Abraham Broer**, McGill University)

Ranee K. Brylinski (Pennsylvania State), Jon Brundan (Oregon at Eugene), Clifton Cunningham (Massachusetts), Sam R. Evens (Arizona at Tucson), Loek Helminck (North Carolina State), Markus Hunziker (Brandeis), Alex S. Kleshchey (Oregon at Eugene), Friedrich Knop (Rutgers), V. Lakshmi Bai (Northeastern), W. Monty McGovern (Seattle), George McNinch (Notre Dame), Fiona Murnaghan (Toronto), Monica Nevins (Alberta), Mark Reeder (Boston College), Yasmine Sanderson (Rutgers), Gordan Savin (Utah), Eric Sommers (Harvard), Peter Trapa (Institute for Advanced Studies).

Surveys in Mathematics

(Org: **Kumar Murty**, University of Toronto and **Niky Kamran** (McGill University))

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 **March 31, 1999**. The abstract must be accompanied by its contributor's registration form and appropriate fees.

Workshop on Combinatorics

Participants might like to note that Memorial University is host for an AARMS-sponsored Workshop on Combinatorics, May 24-28, 1999. Details can be obtained from Dr. Nabil Shalaby, Department of Mathematics and Statistics, Memorial University of Newfoundland, nshalaby@math.mun.ca.

Canadian Undergraduate Mathematics Conference

Participants might also like to note that Memorial University is host for the annual Canadian Undergraduate Mathematics Conference, May 25-29, 1999. Details can be obtained from cumc@math.mun.ca.

Submission of Abstracts

Titles for Plenary Speakers, Prize Lecturers, and Invited Special Session Speakers for the scientific and education program will appear in the **April** issue of the *CMS Notes*. **Titles** for Contributed Papers will appear in the **May** issue of the *CMS Notes*. All **abstracts** will be published in the meeting program and will also be available on the Canadian Mathematical Electronics Services (Camel) <http://camel.math.ca/CMS/Events/summer99> and on the CMS99 Summer Meeting Web Site: <http://www.math.mun.ca/~cms99>.

Speakers should send their titles to their organizers before February 1.

Plenary Speakers, Prize Lecturers, and Invited Special Session Speakers for the scientific and education program:

These speakers are asked to submit their abstracts to the CMS as instructed by their organizers.

Abstracts may be sent electronically, to Dr. Richard Charron, at: abstracts@cms.math.ca. 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 Dr. Richard Charron, Department of Mathematics and Statistics, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1C 5S7, so **as to arrive by the invited speaker deadline of February 26, 1999**.

Contributed Papers: Those submitting contributed papers may submit their abstracts electronically to Dr. Richard Charron, at: cp-abstracts@cms.math.ca or by using the standard CMS form available from the CMS office in Ottawa, in the February issue of the *CMS Notes*, or at the CMS Web Site. Abstracts should be sent to Dr. Richard Charron, Department of Mathematics and Statistics, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1C 5S7, so **as to arrive by March 31, 1999**.

Electronic submission of abstracts: Files should include the speaker's name, affiliation, complete address, title of talk, and the abstract itself.

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

Social Events

Welcoming Reception: The welcoming reception will be held during registration on Friday evening from 7:00 p.m. to 10:00 p.m. at the Court Garden Salon of Hotel Newfoundland. A cash bar will be available.

Delegates' Luncheon: A delegates' luncheon will be held on Sunday, May 30, noon to 2:00 p.m., on campus. The cost of this luncheon is included in all registration fees.

Banquet: The CMS banquet will be held on Sunday, May 30, starting at 7:00 p.m. at the Marine Institute. The organizing committee proposes an evening of Dinner Theatre following the theme *Newfoundland Kitchen Party*. A cash bar will be available. Banquet tickets are available at \$45 each.

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

Coffee Breaks: Coffee will be available during the scheduled breaks.

Exhibits

Exhibits: Exhibits will be open during specified hours in SN-2000 of the Science Building, Memorial University of Newfoundland. The CMS exhibit will be open throughout the course of the meeting.

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

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

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

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

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

This table is not meant for material promoting products or services for sale. Those wishing to promote products for sale should contact the Operations Manager for information on the Joint Exhibit.

CMS Business Meetings

Executive Committee Meeting: The Executive Committee will meet on Thursday, May 27, from 9:00 a.m. to 4:00 p.m. in the Columbus Suite of the Hotel Newfoundland.

CMS Development Group Lunch: The CMS Development Group, consisting of the CMS Executive Committee and the Chairs of all CMS Standing Committees, will meet on Friday, May 28, from 11:00 a.m. to 1:00 p.m. in the Columbus Suite of the Hotel Newfoundland.

Board of Directors Meeting: The Board of Directors will meet on Friday, May 28, from 1:30 to 6:30 p.m. in the Salon Battery of the Hotel Newfoundland. The Board is pleased to invite the Chairs of all CMS Standing Committees and the appointed delegates from the AMS and the MAA.

General Meeting: The Annual General Meeting of the Society will take place on Sunday, May 30, from 4:00 p.m. to 5:30 p.m. at Memorial University of Newfoundland. All members are invited to attend.

Agendas and Meeting Material: Agendas and accompanying material for the General Meeting will be mailed three weeks before the meeting, that is **May 10**.

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

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

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

Luncheon Meeting of the Department Heads: At the invitation of the Chair of the Department of Mathematics and Statistics, Memorial University of Newfoundland, a luncheon meeting of the department chairs will be held on Monday, May 31, from noon to 2 p.m.. Further details will be provided when available.

Registration

Payment Method: Payment for preregistration may be made by cheque, or by VISA or MasterCard. Although registration fees are given in Canadian dollars, delegates may send

cheques in US dollars by contacting their financial institution for the current exchange rate.

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

A preregistration form is included in this issue of the *CMS Notes* and is also 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

OR

CMS99
Department of Mathematics and Statistics
Memorial University of Newfoundland
St. John's, Newfoundland
CANADA A1C 5S7
Tel: (709) 737-8783
FAX: (709) 737-3010
Email: cms99@math.mun.ca

Electronic pre-registration is available on our Camel site at <http://camel.math.ca/CMS/Events/summer99>

	Before May 15	After May 15
All fees include a free meeting lunch ticket		
CMS/AMS/MAA members with grants	\$270	\$350
CMS/AMS/MAA members without grants	135	175
Non-members	400	520
One-day fee	135	175
Postdocs, retired	100	130
Students, unemployed	50	65
Plenary/prize speakers	0	0
Sunday night Banquet	45	45

Plenary Speakers, Prize Lecturers, and Invited Special Session Speakers for the Scientific and Education program: These speakers should register using the special Registration Form for Speakers available from the Chair of the Scientific Program Committee or from session organizers.

Confirmation of Registration: Those delegates preregistering before **May 15** will receive a confirmation of registration and receipt in the mail. Those preregistering after **May 15** will find their receipt in their registration packet which may be picked up at the Registration Desk on-site.

Refund Policy: Delegates wishing to cancel their registration must notify the Executive Office in writing before **May 15** to receive a refund less a \$40 processing fee. Those whose contributed papers have not been accepted will upon request be refunded at 100%.

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

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

Accommodation

It is recommended that those attending the conference book early to avoid disappointment. Blocks of rooms have been reserved at three different facilities and will be held until **May 1, 1999**. Reservations not in by that date will be on a request only, space available basis. Rates quoted are in Canadian dollars.

Hotel Newfoundland

Cavendish Square, St. John's, Newfoundland
Check-in: 15:00; Check-out: 12:00
Reservation Deadline: **May 1, 1999**
Rates:
\$119, single/double occupancy, *Canadian Pacific*
\$129, single/double occupancy, *Canadian Deluxe*
(An additional charge of \$20/room for additional person.)
Applicable taxes: 15% HST
Phone: (709) 726-4980
Reservations FAX: (709) 726-2025
Toll-free reservations: 1-800-441-1414
<http://www.noia.nf.ca/hotelnf.htm>

Quality Hotel

2 Hill O'Chips, St. John's, Newfoundland
Check-in: 13:00; Check-out: 12:00
Reservation Deadline: **May 1, 1999**
Rates:
\$85, single/double occupancy
(A complimentary upgrade to harborside guest rooms, pending availability, is offered, free parking.)
Applicable taxes: 15% HST
Phone: (709) 754-7788
Toll-free reservations: 1-800-228-5151

MUN Housing

Memorial University of Newfoundland, St. John's, Newfoundland
Check-in: 13:00; Check-out: 12:00
Reservation Deadline: **May 1, 1999**
Rates: (estimated)
\$32, single occupancy
\$50, double (twin beds) occupancy
Applicable taxes: 15% HST
Phone: (709) 737-4003
Email: ptulk@morgan.ucs.mun.ca
<http://www.housing.mun.ca/>

Attendees should make their own reservations by calling the above numbers. For the hotels, reservations will be held until 18:00 on the arrival day only, unless guaranteed by a

major credit card. The conference rate is extended up to two days pre- and post-convention. Please mention that you are participating in the CMS 1999 Summer Meeting.

Child Care

Child care is available at the MUN Daycare Centre, located on the MUN campus, St. John's, Newfoundland. Hours of operation are 7:45 to 17:15 from Monday to Friday. Rates are \$23 per day for children from two to 10 years of age. Please contact Anne Goebel at (709) 737-4728 to make arrangements.

Travel

Participants are urged to check their travel arrangements to make sure they are destined for St. John's, Newfoundland (code YYT) and **NOT** Saint John, New Brunswick (code YSJ).

Upon arrival, taxis are available for the 15-minute ride from the airport to the hotels.

A shuttle service will be arranged from the hotels to the meeting site.

Acknowledgements

The CMS and the Meeting Committee wish to extend its thanks to the CRM, the Fields Institute, the Faculty of Science and the Vice-President (Academic), from Memorial University of Newfoundland, and the members of the Department of Mathematics and Statistics, for its support.

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), *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

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

In the next issue of the *CMS Notes*

Third Announcement
Timetable - block schedule

Réunion d'été de la SMC Université Memorial de Terre-Neuve St. John's, Terre-Neuve du 29 mai au 1^{er} juin, 1999

Deuxième annonce

Au nom de l'Université Memorial et à l'occasion de son 50^e anniversaire, le département de mathématiques et statistique vous invite chaleureusement à assister à la Réunion d'été 1999 de la SMC.

La réunion suivra son format habituel : seront inscrits au programme plusieurs symposiums, conférences plénières, notamment les conférences Jeffery-Williams et Krieger-Nelson. À date, les symposiums porteront sur les sujets suivants : Perspectives de la théorie des anneaux, Analyse harmonique, Théorie des représentations, Combinatoire et applications, Analyse non linéaire et ses applications, Études en

mathématiques, et Éducation. Il y aura également une séance pour étudiants diplômés en plus des communications libres.

Les activités scientifiques se tiendront sur le campus de l'Université Memorial de Terre-Neuve, St. John's, du samedi 29 mai au mardi 1^{er} juin, 1999.

Conférenciers Principaux

Ed Barbeau (Toronto)
Michael van den Bergh (Belgium)
Ranee Brylinski (Pennsylvania State)
Tom Korner (Cambridge)
Douglas Stinson (Waterloo)
Luc Vinet (CRM)

Conférences des Récipiendaires de prix

La **conférence Jeffery-Williams** sera prononcée par **John Friedlander**, Université de Toronto.

La **conférence Krieger-Nelson** sera prononcée par **Nicole Tomczak-Jaegermann**, Université de l'Alberta.

Conférence publique

À confirmer.

Séances spéciales

À l'invitation du comité scientifique, des spécialistes aborderont en symposium les sujets suivants :

Combinatoire et applications

(Org: **Nabil Shalaby**, Université Memorial de Terre-Neuve et **Douglas Stinson**, Université Waterloo)

Frank Bennett (Mount St. Vincent), Jeff Dinitz (Vermont), Katherine Heinrich (SFU), William Martin (Winnipeg), Chris Rodger (Auburn), Alexander Rosa (McMaster), Douglas Stinson (Waterloo), Luc Vinet (Montréal).

Éducation: ce que contribuent les compétitions au domaine des mathématiques

(Org: **Bruce Shawyer** et **Ed Williams**, Université Memorial de Terre-Neuve)

Ed Barbeau (Toronto), Peter Crippin (Waterloo), Ron Dunkley (Waterloo), Rita Janes (Directrice du NCTM, et cofondatrice du «Newfoundland and Labrador Mathematics League»), Tony Gardiner (Birmingham), Shannon Sullivan (étudiant à MUN).

Séance pour étudiants diplômés

Une séance spéciale à l'intention des étudiants diplômés est prévue. Tout individu intéressé à organiser le programme de cette séance devrait contacter Dr. Hermann Brunner, Directeur de la Réunion, à l'adresse suivante : cms99@math.mun.ca.

Séance conjointe SMC-CRM

Analyse harmonique

(Org: **Kathryn Hare**, Université Waterloo)

J. Benedetto (Maryland), B. Forrest (Waterloo), M. Christ (Berkeley), C. Finet (Belgique), Jean-Paul Gabardo (McMaster), E. Granirer (UBC), H. Henig (McMaster), Z. Hu (WindSOR), R. Kerman (Brock), Tom Korner (Cambridge), T. Lau (Alberta), D. Oberlin (Florida), J.-O. Ronning (Skode), G. Sinnamon (UWO), S. Wainger (Wisconsin).

Analyse nonlinéaire et ses applications

(Org: **Sankatha Singh** et **Bruce Watson**, Université Memorial de Terre-Neuve)

Giampietro Allasia (Torino), Jonathan Borwein (SFU), Tomas Benavides (Sevilla), Francesco DeBlasi (Rome), Antonio Carbone (Calabria), Paul Gauthier (Montréal), Kaz Goebel (Lublin), Farhad Jafari (Wyoming), Ivar Massabo (Calabria), Pier Luigi Papini (Bologna), George Phillips (St. Andrew's), Luigi Rodino (Torino), Virendra Sehgal (Wyoming), Wataru Takahashi (Tokyo), E. Tarafdar (Australie), John Whitfield (Lakehead).

Cette séance est parrainé en partie par le vice-président académique de l'Université Memorial

Perspectives de la théorie des anneaux

(Org: **Eric Jespers**, Vrije Universiteit Brussel et **Edgar Goodaire**, Université Memorial de Terre-Neuve)

Yuri Bahturin (Moscow), Michael van den Bergh (Limburg/Belgium), Jan Okninski (Warsaw), Donald Passman (Wisconsin), Mohan Putcha (North Carolina State), Lex Renner (UWO), Sudarshan Sehgal (Edmonton).

Cette séance est parrainé en partie par le doyen de la Faculté des Sciences de l'Université Memorial.

Séance conjointe SMC-Institut Fields Théorie des représentations

(Org: **Abraham Broer**, Université McGill)

Ranee K. Brylinski (Pennsylvania State), Jon Brundan (Oregon at Eugene), Clifton Cunningham (Massachusetts), Sam R. Evens (Arizona at Tucson), Loek Helminck (North Carolina State), Markus Hunziker (Brandeis), Alex S. Kleshchev (Oregon at Eugene), Friedrich Knop (Rutgers), V. Lakshmibai (Northeastern), W. Monty McGovern (Seattle), George McNinch (Notre Dame), Fiona Murnaghan (Toronto), Monica Nevins (Alberta), Mark Reeder (Boston College), Yasmine Sanderson (Rutgers), Gordan Savin (Utah), Eric Sommers (Harvard), Peter Trapa (Institute for Advanced Studies).

Études en mathématiques

(Org: **Kumar Murty**, Université de Toronto et **Niky Kamran** Université McGill)

Conférenciers à confirmer.

Communications libres

Nous lançons un appel de communications libres 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 31 mars, 1999**. Nous demandons à chacun de joindre au résumé le formulaire d'inscription avec paiement.

Atelier en combinatoire

Les participants sont avisés que l'Université Memorial est hôte d'un atelier en combinatoire parrainé par la AARMS du 24 au 28 mai, 1999. De plus amples détails sont disponibles auprès de Dr. Nabil Shalaby, Département de mathématiques et statistique, Université Memorial de Terre-Neuve, nshalaby@math.mun.ca.

Congrès canadien des étudiants en mathématiques

Les participants sont avisés que l'Université Memorial est aussi hôte du Congrès canadien des étudiants en mathématiques du 25 au 29 mai, 1999. De plus amples renseignements sont disponibles en s'adressant à cumc@math.mun.ca.

Envoi des résumés

Les titres de conférence présentés par les conférenciers principaux, les conférenciers récipiendaires de prix et les conférenciers invités aux séances scientifiques et sur l'éducation paraîtront dans le numéro **d'avril** des *Notes et la SMC*. Les titres des communications libres paraîtront dans le numéro de **mai**. Tous les résumés seront aussi accessibles à partir des sites Web : <http://camel.math.ca/CMS/Events/summer99> et <http://www.math.mun.ca/~cms99>.

Conférenciers, veuillez remettre aux organisateurs le titre de votre conférence avant le 1^{er} février.

Conférenciers principaux, conférenciers récipiendaires de prix et conférenciers invités pour les activités scientifiques et portant sur l'éducation, veuillez remettre à la SMC le résumé de votre communication selon les directives de l'organisateur de votre symposium.

Les résumés peuvent être transmis par courriel (au Dr. Richard Charron à l'adresse : resumes@smc.math.ca) ou via le formulaire de la SMC disponible au bureau de la SMC ou par l'intermédiaire des organisateurs des séances. Les résumés devraient parvenir à Dr. Richard Charron, Département de Mathématiques et statistique, Université Memorial de Terre-Neuve, St. John's, Terre-Neuve, A1C 5S7 **afin d'arriver avant le 26 février, 1999.**

Communications libres. Les résumés peuvent être transmis par courriel au Dr. Richard Charron à l'adresse : cp-abstracts@smc.math.ca ou via le formulaire de la SMC disponible au bureau de la SMC ou encore dans le numéro de **février** des *Notes de la SMC*. Adresser le tout à Dr. Richard Charron, Département de Mathématiques et statistique, Université Memorial de Terre-Neuve, St. John's,

Terre-Neuve, A1C 5S7 **afin d'arriver avant le 31 mars, 1999.**

Envoi des résumés par courriel : les fichiers doivent inclure le nom du conférencier, son affiliation, son adresse complète ainsi que le titre et résumé de la communication.

Prière de respecter les dates limites ci-dessus pour soumission de votre résumé. Les résumés transmis par télécopieur ne seront pas acceptés.

Activités sociales

Réception : une réception avec bar payant aura lieu le vendredi 28 mai, de 19 h à 22 h pendant l'inscription au Salon du Jardin de l'Hôtel Newfoundland.

Lunch : le lunch des participants à la Réunion se tiendra le dimanche 30 mai, de midi à 14 h, sur le campus de l'Université Memorial. Ce repas est compris dans tous les frais d'inscriptions.

Banquet : le banquet de la conférence aura lieu à l'Institut Marine de l'Université Memorial. Le comité d'organisation vous propose une soirée dîner-théâtre suivant le thème *Newfoundland Kitchen Party*. Un bar-payant sera ouvert. Le prix des billets pour le banquet est de 45 \$ l'unité et comprend le vin ainsi que les taxes et les pourboires.

Un menu végétarien est disponible à ceux qui en font la demande au préalable sur le formulaire d'inscription.

Pauses santé : café et jus seront offerts pendant les pauses.

Exposants

Exposants : les kiosques seront ouverts aux heures indiqués dans le salon SN-2000 au pavillon de Science. Le kiosque de la SMC restera ouvert durant toute la réunion.

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

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

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

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

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

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

Séances de travail de la SMC

Réunion du comité exécutif : le comité exécutif se réunira le jeudi 27 mai, de 9 h à 16 h à la suite Columbus de l'Hôtel Newfoundland.

Lunch du groupe de développement : les membres du groupe de développement, formé du Comité exécutif et des présidences des comités permanents, se réuniront le vendredi 28 mai, de 11 h à 13 h à la suite Columbus de l'Hôtel Newfoundland.

Réunion du Conseil d'administration : les membres du Conseil d'administration se réuniront le vendredi 28 mai, de 13 h 30 à 18 h 30 au salon Battery de l'Hôtel Newfoundland. Le Conseil est heureux d'inviter à sa réunion les présidents des comités permanents de la SMC et les représentants nommés de l'AMS et de la MAA.

Assemblée générale : l'assemblée générale annuelle de la Société aura lieu le dimanche 30 mai, de 16 h à 17 h 30 à l'Université Memorial.

Ordres du jour et documentation : les ordres du jour et autres documents pour l'assemblée générale seront postés trois semaines avant la Réunion, soit le **10 mai**.

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

Il doivent porter le nom et la signature de motionnaire et de l'appuyeur, qui doivent être membres en règle de la Société. Seuls les avis de motion reçus à l'adresse suivante avant 17 h le **5 avril** seront retenus pour l'assemblée générale: Secrétaire de la SMC, Bureau administratif, 577, avenue King Edward, bureau 109, C.P. 450, succ. A., Ottawa (Ontario), Canada K1N 6N5.

Réunions des comités : la plupart des comités permanents et spéciaux organiseront une réunion. Les membres de la SMC désirant faire inscrire des points à l'ordre du jour sont priés de communiquer avec les présidents des comités. L'attribution

des salles pour toutes les réunions des comités a été confié à la chef des opérations à Ottawa.

Lunch et réunion des chefs de département : à l'invitation du directeur du département des mathématiques et statistique de l'Université Memorial, une réunion des chefs de département aura lieu le lundi 31 mai, de midi à 14 h. De plus amples renseignements seront fournis dans un prochain numéro.

Préinscriptions

Modes de paiement : les frais (en devises canadiennes) sont payables par chèques, VISA ou MasterCard. Si l'on préfère payer en devises américaines, il faut communiquer avec son institution financière pour déterminer le taux d'échange en vigueur.

Vous trouverez le formulaire de préinscription dans le présent numéro des *Notes de la SMC*. On peut également se le procurer à l'adresse:

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

OU

SMC99
Département de Mathématiques et statistique
Université Memorial de Terre-Neuve
St. John's, Terre-Neuve
Canada A1C 5S7
Tél: (709) 737-8783
Télécopieur: (709) 737-3010
Courriel: cms99@math.mun.ca

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

<http://camel.math.ca/CMS/Events/summer99>

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

	avant le 15 mai	après le 15 mai
Un billet pour le lunch de dimanche est compris dans tous les frais d'inscription		
Membres SMC/AMS/MAA avec subvention	\$270	\$350
Membres SMC/AMS/MAA sans subvention	135	175
Non-membres	400	520
Frais pour une journée	135	175
Postdocs, retraités	100	130
Étudiants, chômeurs	50	65
Conférenciers principaux	0	0
Récipiendaire de prix	0	0
Banquet (dimanche)	45	45

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

Confirmation d'inscription : ceux et celles qui s'inscriront avant le **15 mai** recevront par la poste leur confirmation d'inscription et leur reçu. Ceux et celles qui s'inscriront après le **15 mai** trouveront leur reçu dans la trousse d'inscription qu'ils pourront prendre au comptoir d'inscription sur les lieux de la Réunion.

Politique de remboursement : les participants qui désirent annuler leur inscription doivent en aviser le bureau administratif par écrit avant le **15 mai** pour se voir rembourser leurs frais d'inscription (moins 40 \$). Les participants dont les communications libres n'auront pas été acceptées seront remboursés intégralement sur demande.

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

Inscription sur les lieux : le comptoir d'inscription sera ouvert le samedi, dimanche et le lundi, de 8 h à 17 h.

Hébergement

Il est fortement recommandé aux participants de bien réserver à l'avance par mesure de précaution. Des chambres ont été réservées aux trois endroits ci-dessous. Celles-ci sont disponibles jusqu'aux **1^{er} mai**. Les tarifs sont présentés en devises canadiennes.

Hôtel Newfoundland

Cavendish Square, St. John's, Terre-Neuve

Arrivée : 15h; départ : 12h

Réserver au plus tard le **1^{er} mai, 1999**

Tarifs :

119,00 \$, 1 ou 2 personnes, chambre *Canada Pacifique*

129,00 \$, 1 ou 2 personnes, chambre *Canada de Luxe*

(20,00 \$ supplémentaire pour chaque personne additionnelle)

Taxes applicables : 15 % TVH

Téléphone: (709) 726-4980

Réservation par télécopieur : (709) 726-2025

Réservation sans frais : 1-800-441-1414

<http://www.noia.nf.ca/hotelnf.htm>

Quality Hotel

2 Hill O'Chips, St. John's, Terre-Neuve

Arrivée : 13h; départ : 12h

Réserver au plus tard le **1^{er} mai, 1999**

Tarif :

85,00 \$, 1 ou 2 personnes

(Chambre donnant vue sur port est offerte à titre

complémentaire, selon disponibilité, stationnement gratuit)

Taxes applicables : 15 % TVH

Téléphone: (709) 754-7788

Réservation sans frais : 1-800-228-5151

Résidences MUN

Université Memorial de Terre-Neuve

St. John's, Terre-Neuve

Arrivée : 13h; départ : 12h

Réserver au plus tard le **1^{er} mai, 1999**

Tarifs : (estimé)

32,00 \$, chambre simple

50,00 \$, chambre double

Taxes applicables : 15 % TVH

Téléphone: (709) 737-4003

Courriel : ptulk@morgan.ucs.mun.ca

<http://www.housing.mun.ca/>

Vous êtes priés de faire vos propres réservations en composant l'un des numéros ci-dessus. Les réservations sont garanties jusqu'à 18 h le jour d'arrivée à moins d'être assurées avec carte de crédit. Le tarif préférentiel s'applique aussi pour les deux jours qui précèdent et qui suivent la réunion. Veuillez mentionner que vous participez à la réunion d'été de la SMC.

Service de garde

Le service de garde pour les enfants de deux à dix ans est disponible au *MUN Daycare Centre* situé sur le campus de l'université. Le centre est ouvert de 7h45 à 17h15 du lundi au vendredi. Le frais de garde est de 23 \$ par jour. Prière de contacter Anne Goebel au (709) 737-4728 pour réservations.

Transport

Nous encourageons fortement les participants de s'assurer que leur destination est bien St. John's, Terre-Neuve (code YYT) et **NON** Saint-Jean, Nouveau-Brunswick (code YSJ).

Un service de taxi faisant navette entre l'aéroport et les hôtels est habituellement disponible.

Le transport par autocar entre hôtels et le site de la conférence sera disponible.

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) 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 Jespers (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), Monique Bouchard (SMC), Graham Wright (SMC), Rosalind English (MUN), Wanda Heath (MUN).

Documents publiés avec cette annonce

Formulaire d'inscription
 Formulaire de résumé - Communications libres
 Formulaire de réservation d'hôtels

Dans le prochain numéro des *Notes de la SMC*

Troisième annonce
 Horaire

ATLANTIC ASSOCIATION FOR RESEARCH IN THE MATHEMATICAL SCIENCES

AARMS was founded in 1995 at the time when NNRMS (National Network for Research in the Mathematical Sciences) was being discussed and planned. The philosophy behind AARMS was that it would be an association to encourage and further research in all mathematical sciences, including statistics and computer science, in the Atlantic region. As well, AARMS would serve as a regional voice in discussions of the mathematical sciences on a national level. Since its inception AARMS has played an important role in the research activities in the Atlantic region, sponsoring or co-sponsoring various meetings and workshops.

Recent Programmes Sponsored or Cosponsored by AARMS:

- * APICS-AARMS meeting: St. Mary's Oct 1998
- * CMS meeting: UNB-Saint John, June 1998
- * Category Theory Workshop: Mount Allison U., June 1998
- * APICS-AARMS: UNB Fredericton, Oct. 1997
- * International Conference on DEs: Dalhousie U., July 1997
- * Pre-Conference Workshop on DEs: Dalhousie U., June 1997
- * Workshop on Group Rings and Hopf Algebras, MUN, May 6-10, 1997.
- * Theme Semester on Differential Geometry: Dalhousie, Spring 1997

Future Programmes:

- * CMS meeting: MUN, June 1999
- * Combinatorics workshop: MUN, June 1999
- * Pre-conference workshop on DEs: Dalhousie U., June 1999
- * CRM-AARMS Conference on Darboux-Backlund Transformations—the geometry of solitons: Halifax June 1999.

AARMS is a loosely knit organization: there is a Board of Directors but no office, staff or associated overhead costs.

Current Board of Directors:

Richard Wood, Director (Dalhousie)
 Alan Coley (Dalhousie)
 Edgar Goodaire (Memorial)
 Jon Thompson (UNB Fredericton)
 Margaret Beattie (at large)
 Merzik Kamel (APICS)

ABSTRACT FORM - CONTRIBUTED PAPERS

1999 Canadian Mathematical Society Summer Meeting

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

<http://camel.math.ca/CMS/Events/summer99/>

Mailing address:

CMS Summer Meeting 1999, c/o Dr. Richard Charron, Department of Mathematics and Statistics
Memorial University of Newfoundland, St. John's, NFLD CANADA A1C 5S7

Electronic mail:

cp-abstracts@cms.math.ca

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

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

LASTNAME, FIRSTNAME, University name and address, email address

The title of the talk would go here

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

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

Please type abstract below this line.

FORMULAIRE DE RÉSUMÉ - COMMUNICATIONS LIBRES

Société mathématique du Canada, Réunion d'été 1999

Les résumés de communications libres seront publiés dans le Programme de la Réunion. La politique de la SMC exige que les conférenciers complètent et retournent ce formulaire pour qu'il parvienne à l'adresse ci-dessous avant le **31 mars**. Tous les résumés seront disponibles sur le Canadian Mathematical Electronic Services (Camel) à l'adresse suivante <http://camel.math.ca/CMS/Events/summer99/>.

Adresse:

Réunion d'été 1999, c/o Dr. Richard Charron, Department of Mathematics and Statistics
Memorial University of Newfoundland, St. John's, NFLD CANADA A1C 5S7

Adresse électronique:

cp-abstracts@smc.math.ca

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

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

Titre de la conférence

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

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

**REGISTRATION FORM
CMS Summer 1999 Meeting**

May 29-June 1 - Memorial University of Newfoundland, St. John's, Newfoundland

Send completed form with payment to:

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

Important deadlines: Preregistration for reduced rates payment must arrive by May 15
Hotel Reservations must arrive by May 1 (All)
Cancellation (refund less \$40 penalty) must arrive by May 15

Plenary Speakers, Prize Lecturers, and Invited Special Session Speakers should use the special registration form provided by the Meeting Director.			
Name:			
Institution (for badge):			
Mailing Address:		Voluntary Information:	
		<input type="checkbox"/> Male <input type="checkbox"/> Female	
Telephone:		Email:	
Arrival date:		Departure date:	
PLEASE MAKE YOUR HOTEL RESERVATIONS DIRECTLY WITH THE HOTEL			
I will be reserving at	<input type="checkbox"/> Hotel Newfoundland	<input type="checkbox"/> Quality Hotel	<input type="checkbox"/> MUN Housing
	<input type="checkbox"/> Another hotel/motel	<input type="checkbox"/> I will require no housing	
Special dietary needs:	<input type="checkbox"/> Kosher	<input type="checkbox"/> Vegetarian	<input type="checkbox"/> Other - specify:
<input type="checkbox"/> I would like to deliver a contributed paper.			
My abstract:	<input type="checkbox"/> is enclosed	<input type="checkbox"/> will follow	<input type="checkbox"/> sent by e-mail
I am a member of:	<input type="checkbox"/> CMS <input type="checkbox"/> CAIMS	<input type="checkbox"/> SSC <input type="checkbox"/> AMS	<input type="checkbox"/> MAA
(check all that apply)	<input type="checkbox"/> University professor	<input type="checkbox"/> Elementary teacher	<input type="checkbox"/> High school teacher
	<input type="checkbox"/> College teacher	<input type="checkbox"/> CEGEP teacher	<input type="checkbox"/> Student
	<input type="checkbox"/> Postdoctoral fellow	<input type="checkbox"/> Retired	<input type="checkbox"/> Unemployed
PLEASE INDICATE WHICH SESSION(S) YOU MIGHT BE ATTENDING			
<input type="checkbox"/> Combinatorics	<input type="checkbox"/> Harmonic Analysis	<input type="checkbox"/> Nonlinear Analysis	<input type="checkbox"/> Perspectives in Ring Theory
<input type="checkbox"/> Representation Theory	<input type="checkbox"/> Surveys in Mathematics	<input type="checkbox"/> Education	<input type="checkbox"/> Graduate Seminar
<input type="checkbox"/> Contributed Papers			

Don't forget to purchase your ticket for the Sunday night banquet !!		
	Before May 15	After May 15
CMS/AMS/MAA members with grants	\$270	\$350
CMS/AMS/MAA members without grants	135	175
Non-members	400	520
One-day fee	135	175
Postdocs, retired	100	130
Students, unemployed	50	65
Sunday night Banquet	45	45
All categories include a free ticket to the Meeting Lunch on Sunday.		

CMS: \$	Banquet = \$	TOTAL \$
Method of Payment: <input type="checkbox"/> Cheque (payable to CMS) <input type="checkbox"/> VISA <input type="checkbox"/> Master Card <input type="checkbox"/> Purchase Order (attached)		
Credit Card #	Expiry:	
If this is your credit card, please print your name as it appears on the credit card and sign your name. If this is not your credit card, please print holder's name as it appears on the credit card and have the card holder sign.		
Print:	Signature:	

FORMULAIRE D'INSCRIPTION**Réunion d'été de la SMC 1999****29 mai- 1er juin - Université Memorial de Terre-Neuve - St. John's, Terre-Neuve****Veillez envoyer ce formulaire et votre paiement :**

Société mathématique du Canada, 577 King Edward, CP 450, Succursale A, Ottawa, Ontario, CANADA K1N 6N5

Téléphone: (613) 562-5702, Télécopieur: (613) 565-1539 (FAX pour paiements utilisant les cartes de crédit seulement.)

Dates importantes: Préinscription à prix réduit 15 mai
 Réservations d'hôtel 1er mai (Tous)
 Annulation - Préinscription (remboursement moins 40\$) 15 mai

Conférenciers honorifiques, conférenciers principaux, et conférenciers invités doivent utiliser le formulaire d'inscription distribué par le Directeur de la Réunion.			
Nom:			
Institution (pour le "badge"):			
Adresse postale:		Information volontaire:	
		<input type="checkbox"/> Homme <input type="checkbox"/> Femme	
Téléphone:		Courier él:	
Date d'arrivée:		Date de départ:	
Je ferai ma réservation au	<input type="checkbox"/> Hôtel Newfoundland <input type="checkbox"/> Un autre hôtel/motel	<input type="checkbox"/> Quality Hotel <input type="checkbox"/> Pas de logement	<input type="checkbox"/> Résidences MUN
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Mon résumé	<input type="checkbox"/> est inclus	<input type="checkbox"/> suivra	<input type="checkbox"/> suivra par e-mail
Je suis membre de:	<input type="checkbox"/> la SMC <input type="checkbox"/> SCMA	<input type="checkbox"/> l'AMS	<input type="checkbox"/> MAA
(indiquer ceux qui applique)	<input type="checkbox"/> Professeur d'université <input type="checkbox"/> Enseignant - Collège <input type="checkbox"/> Postdoc	<input type="checkbox"/> Enseignant - élém. <input type="checkbox"/> Enseignant - CEGEP <input type="checkbox"/> À la retraite	<input type="checkbox"/> Enseignant - secondaire <input type="checkbox"/> étudiant(e) <input type="checkbox"/> Chômeur
VEUILLEZ INDIQUER À QUELLE(S) SESSION(S) VOUS PARTICIPEREZ			
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<input type="checkbox"/> Communications libres			

N'oubliez pas d'acheter votre billet pour le banquet de dimanche !!		
	Avant le 15 mai	Après le 15 mai
Membres SMC/AMS/MAA avec subvention	270\$	350\$
Membres SMC/AMS/MAA sans subvention	135	175
Non-membres	400	520
Frais d'une journée	135	175
Postdocs, retraités	100	130
Étudiants, chômeurs	50	65
Banquet du dimanche	45	45
Un billet pour le Lunch de dimanche est inclus dans tout les catégories d'inscription.		

CMS: \$	Banquet = \$	TOTAL \$
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Méthodes de paiement: <input type="checkbox"/> Chèque (au nom de la SMC) <input type="checkbox"/> VISA <input type="checkbox"/> Master Card <input type="checkbox"/> Bon de commande
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Carte de crédit #:	Date d'expiration:
Si vous utilisez votre carte de crédit, veuillez inscrire votre nom (tel qu'il apparaît sur la carte) en lettres moulées et signer. Si vous utilisez une autre carte, veuillez inscrire le nom du détenteur (tel qu'il apparaît sur la carte) en lettres moulées et faire signer le détenteur de la carte.	
Lettres moulées:	Signature:



CALL FOR NOMINATIONS / APPEL DE CANDIDATURES

1999 Adrien Pouliot Award /Prix Adrien-Pouliot 1999

Nominations of individuals or teams of individuals who have made significant and sustained contributions to mathematics education in Canada are solicited. Such contributions are to be interpreted in the broadest possible sense and might include: community outreach programmes, the development of a new

program in either an academic or industrial setting, publicizing mathematics so as to make mathematics accessible to the general public, developing mathematics displays, establishing and supporting mathematics conferences and competitions for students, etc.

Nominations must be submitted on the "Nomination Form" available from the CMS office. To assure uniformity in the selection process, please follow the instructions precisely. Documentation exceeding the prescribed limits will not be considered by the Selection Committee. Individuals who made a nomination in 1997 can renew this nomination by simply indicating their wish to do so by the deadline date. Only materials updating the 1998 Nomination need be provided as the original has been retained.

Nominations must be received by the CMS Office no later **April 30, 1999**. Please send six copies of each nomination the following address:

Nous sollicitons la candidature de personnes ou de groupe de personnes ayant contribué de façon importante et soutenue à des activités mathématiques éducatives au Canada. Le terme "contributions" s'emploie ici au sens large; les candidats pourront être associés à une activité de sensibilisation, un nouveau

programme adapté au milieu scolaire ou à l'industrie, des activités promotionnelles de vulgarisation des mathématiques, des initiatives, spéciales, des conférences ou des concours à l'intention des étudiants, etc.

Les candidatures doivent nous être transmises via le "Formulaire de mise en candidature" disponible du bureau de la direction de la SMC. Pour garantir l'uniformité du processus de sélection, veuillez suivre les instructions à la lettre. Toute documentation excédant les limites prescrites ne sera pas considérée par le comité de sélection. Il est possible de renouveler une mise en candidature présentée l'an dernier, pourvu que l'on en manifeste le désir avant la date limite. Dans ce cas, le présentateur n'a qu'à soumettre des documents de mise à jour puisque le dossier original a été conservé.

Les mises en candidature doivent parvenir au bureau de la SMC avant **le 30 avril 1999**. Veuillez faire parvenir vos mises en candidature en six exemplaires à l'adresse suivante:

The Adrien Pouliot Award / Le Prix Adrien-Pouliot
Canadian Mathematical Society / Société mathématique du Canada
577 King Edward, Suite 109
P.O. Box 450, Station A / C.P. 450, Succ. A
Ottawa, Ontario
K1N 6N5

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

The CMS Research Committee is inviting nominations for three prize lectureships.

The Coxeter-James Prize Lectureship recognizes outstanding young research mathematicians in Canada. The selected candidate will deliver the prize lecture at the Winter 1999 Meeting in Montreal, Quebec. Nomination letters should include at least three names of suggested referees.

The Jeffery-Williams Prize Lectureship recognizes outstanding leaders in mathematics in a Canadian context. The prize lecture will be delivered at the Summer 2000 Meeting in Hamilton, Ontario. Nomination letters should include three names of suggested referees.

The Krieger-Nelson Prize Lectureship recognizes outstanding female mathematicians. The prize lecture will be delivered at the Summer 2000 Meeting in Hamilton, Ontario. Nomination letters should include three names of suggested referees.

The deadline for nominations is **September 1, 1999**. Letters of nomination should be sent to:

Le Comité de recherche de la SMC invite les mises en candidatures pour les trois prix de conférence de la Société, la

Conférence Coxeter-James, la Conférence Jeffery-Williams et la Conférence Krieger-Nelson.

Le prix Coxeter-James rend hommage à l'apport exceptionnel des jeunes mathématiciens au Canada. Le candidat choisi présentera sa conférence lors de la réunion d'hiver 1999 à Montréal (Québec). Les lettres de mises en candidatures devraient inclure les noms d'au moins trois répondants possibles.

Le prix Jeffery-Williams rend hommage à l'apport exceptionnel des mathématiciens d'expérience au Canada. La Conférence sera présentée lors de la réunion d'été 2000 à Hamilton (Ontario). Les lettres de mises en candidature devraient inclure les noms d'au moins trois répondants possibles.

Le prix Krieger-Nelson rend hommage à l'apport exceptionnel des mathématiciennes au Canada. La Conférence sera présentée lors de la réunion d'été 2000 à Hamilton (Ontario). Les lettres de mises en candidatures devraient inclure les noms d'au moins trois répondants possibles.

La date limite pour les mises en candidatures est **le 1 septembre 1999**. Les lettres de mises en candidatures devraient être envoyées à :

Niky Kamran
CMS Research Committee / Comité de recherche de la SMC
Department of Mathematics and Statistics
McGill University
805 Sherbrooke Street West
Montréal, Québec
H3A 2K6

CMS Distinguished Service Award / Prix de la SMC pour service méritoire

In 1995, the Society established this award to recognize individuals who have made sustained and significant contributions to the Canadian mathematical community and, in particular, to the Canadian Mathematical Society.

The first awards were presented at the 1995 Winter Meeting in Vancouver to Donald Coxeter, Nathan Mendelsohn, John Coleman, Maurice L'Abbé and George Duff. The second awards were presented at the 1996 Winter Meeting in London, Ontario to David Borwein and P.G. (Tim) Rooney. The next awards will be presented at the 1999 Summer Meeting in St. John's, Newfoundland.

Nominations should include a reasonably detailed rationale and be submitted by **March 31, 1999**, to the address below.

En 1995, la Société mathématique du Canada a créé un nouveau prix pour récompenser les personnes qui contribuent de façon importante et soutenue à la communauté mathématique canadienne et, notamment, à la SMC.

Les premiers lauréats furent honorés lors de la réunion d'hiver 1995 à Vancouver aux Donald Coxeter, Nathan Mendelsohn, John Coleman, Maurice L'Abbé et George Duff. Les deuxièmes lauréats, David Borwein et P.G. (Tim) Rooney, furent honorés lors de la réunion d'hiver 1996 à London, Ontario. Les prochains lauréats seront honorés lors de la réunion d'été 1999 à St. John's, Terre-Neuve.

La période de mises en candidature est en cours; prière de présenter des dossiers suffisamment détaillés et de les faire parvenir, le **31 mars 1999** au plus tard, à l'adresse ci-dessous.

Selection Committee / Comité de sélection
Distinguished Service Award / Prix pour service méritoire
577 King Edward, Suite 109
C.P./P.O. 450, Succursale / Station A
Ottawa, Ontario K1N 6N5 Canada

Associate Editors - CJM and CMB / Rédacteurs associés - JCM et BCM

The Publications Committee of the CMS solicits nominations for three Associate Editors for the Canadian Journal of Mathematics (CJM) and the Canadian Mathematical Bulletin (CMB). The appointment will be for five years beginning January 1, 2000. The continuing members (with their end of term) are:

CJM Editors-in-Chief:

J. Carrell and N. Ghoussoub (UBC) (2003)

CMB Editors-in-Chief:

A.J. Nicas and M. Min-oo (McMaster) (2000)

Associate Editors:

J. Bland (Toronto) (2002); J. Friedlander (Toronto) (2001); M. Goresky (Northeastern) (2001); N. Higson (Penn. State) (2000); J.F. Jardine (Western) (2000); F. Lalonde (UQAM) (2003); J. Lipman (Purdue) (2001); J. Millson (Maryland) (2003); and C. Sulem (Toronto) (2003).

The deadline for the submission of nominations is **April 15, 1999**. Nominations, containing a curriculum vitae and the candidate's agreement to serve should be sent to:

Le comité des publications de la SMC sollicite des mises en candidatures pour trois postes de rédacteur associé du Journal canadien de mathématiques (JCM) et Bulletin canadien de mathématiques (BCM). Le mandat sera de cinq ans et débutera le 1 janvier 2000. Les membres qui continuent sont :

Rédacteurs-en-chef du JCM :

J. Carrell et N. Ghoussoub (UBC) (2003)

Rédacteur-en-chef du BCM :

A.J. Nicas et M. Min-oo (McMaster) (2000)

Rédacteurs associés :

J. Bland (Toronto) (2002); J. Friedlander (Toronto) (2001);

M. Goresky (Northeastern) (2001); N. Higson (Penn. State) (2000); J.F. Jardine (Western) (2000); F. Lalonde (UQAM) (2003); J. Lipman (Purdue) (2001); J. Millson (Maryland) (2003); et C. Sulem (Toronto) (2003).

L'échéance pour proposer des candidats est **le 15 avril 1999**. Les mises en candidature, accompagnés d'un curriculum vitae ainsi que du consentement du candidat(e), devrait être envoyées à :

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

1999 ELECTIONS / ÉLECTIONS 1999
Intitial Slate and Call for Additional Nominations
Candidats proposés et appel aux mises en candidature supplémentaires

The Nominating Committee wishes to announce its initial list of candidates for the 1999 election. Each candidate named has agreed to stand for the position indicated and to furnish the committee with the biographical information requested. **Further nominations are sought** and will be accepted by the Nominating Committee provided: (i) that each such person is supported in writing by at least five (5) other members of the Society; (ii) that the person has given written acceptance to stand for office and to supply the biographical information which will be requested by the Nominating Committee and (iii) that the information sought in (i) and (ii) is received by **February 26, 1999**.

Additional nominations together with supporting materials should be sent to the address below:

Le comité des mises en candidature a établi la liste initiale des candidats aux élections de 1999. Chaque personne sur la liste a exprimé la volonté d'être candidat et de fournir au comité les renseignements biographiques désirés. **Les mises en candidature supplémentaires sont sollicitées** et seront acceptées par le Comité des mises en candidature pourvu: (i) que la personne aie reçu l'appui par écrit d'au moins cinq (5) autres membres de la Société; (ii) que la personne aie accepté par écrit d'être candidat et de fournir les renseignements biographiques qui lui seront demandés par le Comité; et (iii) que les renseignements prévues aux (i) et (ii) nous parviennent avant **le 26 février 1999**.

Les mises en candidatures supplémentaires avec documents à l'appui doivent être envoyées à l'adresse ci-dessous.

Nominating Committee Chair / Président du Comité des mises en candidatures
577 King Edward, Suite 109
C.P./P.O. 450, Succursale / Station A
Ottawa, Ontario
K1N 6N5 Canada

INITIAL SLATE / CANDIDATS PROPOSÉS

President Elect / Président élu (1999-2000),
President / Président (2000-2002) and
Past President / Président sortant (2002-2003):

Jonathan Borwein (Simon Fraser)

Executive Committee / Comité exécutif (1999-2001)

Vice-Presidents / Vice-présidents:

Western Provinces and Territories / Provinces de l'ouest et territoires:

Ontario:

Quebec / Québec:

Atlantic Provinces / Provinces de l'atlantique:

Keith Taylor (Saskatchewan)

Thomas Salisbury (York)

François Bergeron (UQAM)

Margaret Beattie (Mount Allison)

Board of Directors / Conseil d'administration (1999-2003)

Atlantic / l'Atlantique (2 to be elected / 2 à élire)

Tom Archibald (Acadia)
 Peter Booth (Memorial)
 Abraham Punnen (UNB - St. John)

Quebec / Québec (2 to be elected / 2 à élire)

Bram Broer (Montreal)
 Henri Darmon (McGill)
 Tom Ransford (Laval)

Ontario (3 to be elected / 3 à élire)

Lisa Jeffrey (Toronto)
 Peter Cass (Western)
 Brian Forrest (Waterloo)
 David Wehlau (RMC)

West / l'Ouest (3 to be elected / 3 à élire)

George Blum (UBC)
 David Cowan (Lethbridge)
 Fereidoun Ghahramani (Manitoba)
 Judith McDonald (Regina)

At large / de l'ensemble des membres (1 to be elected / 1 à élire)

John Chadam (Pittsburgh)

Members elected in 1997 and continuing on the Board of Directors until June 2001 / Membres élus en 1997 et qui continués au conseil d'administration jusqu'au juin 2001

Atlantic / l'Atlantique

Jason Brown (Dalhousie)
 Robert Dawson (St Mary's)

Quebec / Québec

Jacques Belair (Montreal)
 François Dubeau (Sherbrooke)

Ontario

Penny Haxell (Waterloo)
 Neal Madras (York)
 Gail Wolkowicz (McMaster)

West / l'Ouest

Jennifer Hyndman (UNBC)
 Anthony Lau (Alberta)
 Karen Seyffarth (Calgary)

At large / de l'ensemble des membres

Sylvia Wiegand (Nebraska)

39th International Mathematical Olympiad (IMO)

Christopher Small, 1998 IMO Team Leader

As our Canadian team arrived back at Toronto airport after the 39th International Mathematical Olympiad (IMO) in Taiwan, I felt a mixture of emotions. I was proud of our six team members for their exemplary conduct and fine performance. I was relieved that we had not lost any members of our delegation in the crowds of Taiwan where few people speak English. However, I was also saddened to reflect that I would have to say goodbye to the students with whom I had worked closely over the last year.

The road to Taiwan was the culmination of a number of challenging steps for each of these students, and involved a large number of dedicated individuals who gave up much of their time in support of a program that celebrates the best in high school mathematics.

Choosing The Team

The early hours of morning of January 9th, 1998 found me waiting at the Kitchener bus station for the last students to arrive from Montreal for the Winter Training Camp at the University of Waterloo. January 1998 was the time of the Ice Storm whose devastating effects disrupted many lives across Ontario and Quebec. Most of the students had arrived on time for the Winter Camp. However, two of the students, who had planned to take the train from Montreal, had had to

take the bus instead. The students arrived tired but seemingly happy, and I drove them to their accommodation and listened to stories about life without power in the middle of winter.

The Winter Training Camp is not the first step to the International Mathematical Olympiad, but it is an important early one. Students are selected on the basis of their performance in a variety of competitions. The 1998 Winter Camp featured a group of 15 students from across the country and a team of trainers and support people: Bill Sands from the University of Calgary, who was there to observe the format of the Winter Camp and to plan for the Summer Camp in Calgary, Dorette Pronk, a Postdoctoral Fellow at Dalhousie, who had agreed to act as Deputy Leader Observer for the Canadian team at the 1998 Olympiad, and my wife Kristin Lord, who was Deputy Leader Observer in Argentina the previous year. There were a couple of "guest" lectures given by David Jackson on combinatorics and by Mary Thompson on extremal problems as well. At the suggestion of some alumni of the Olympiad system, we brought together some older students from previous years, now undergraduates at Waterloo, with our students at the Winter Camp for a closing evening of five-pin bowling. The suggestion of an evening of bowling turned out to be fortuitous, as the freewheeling format, which allowed Richard

Hoshino and others to propel bowling balls down the alley in much the same way that Roger Clemens pitches fastballs, was an excellent counterweight to the difficult academic challenges earlier in the camp.



Getting Set for the IMO(team l to r): Adrian Birka (Ontario), Adrian Chan (Ontario), Jimmie Chui (Ontario), Mihaela Enachescu (Quebec), Yin "Jessie" Lei (Ontario), Adrian Tang (Ontario)

After the Winter Training Camp, the results of competitions such as the Canadian Mathematical Olympiad and the Asia Pacific Mathematical Olympiad were pooled to determine the group of six students who would represent Canada at the International Mathematical Olympiad in Taiwan. The selection committee chose Adrian Birka (Niagara Falls, Ontario), Adrian Chan (Toronto, Ontario), Jimmy Chui (Toronto, Ontario), Mihaela Enachescu (Cote St. Luc, Quebec), Jessie Yin Lei (Windsor, Ontario) and Adrian Tang (Scarborough, Ontario) as its team. It was of some concern that the team concentration was so heavily based in Ontario. However, the selection committee was unanimous in feeling that these were the students whose performance had been of such high caliber as to strongly recommend them for the IMO team. It was also interesting to note that three of our students were named Adrian. We joked about the advantages of having this name in the selection process. Of course, as a statistician I knew that coincidences not only can appear in random selection, but can be expected to appear.

Gathering Storm Clouds

Meanwhile, back at the ranch (Ottawa), the indefatigable Graham Wright was working hard on a challenging problem. Jessie Lei, one of our team members, was due to travel to the IMO on a Chinese passport. In itself, this did not represent a major obstacle to going to Taiwan. However, the delay in processing Jessie's visa application was a serious obstacle to our plans, as it was looking as if her visa would not be ready in time. It did not help to hear that the team from the People's Republic of China would not be going to Taiwan because of the use of the term "Republic of China" in Taiwan's correspondence and promotional material for the IMO. Fortunately a timely intervention by Ed Wang of Wilfrid Laurier University helped save the day. We were grateful to Ed and his mother for their deft navigation of the tricky business of obtaining a Taiwanese visa.

The Path To the I.M.O.

For the six students chosen for the 39th IMO in Taiwan, the intensive training began at the University of Calgary on June 30. Prior to leaving for Calgary, the 1998 Canadian IMO team was introduced at a send-off reception hosted by the Bank of Montreal, Upper Canada College and the Canadian Mathematical Society.



The Honourable David Johnson, Ontario Minister of Education and Training, presents IMO uniform to team member Adrian Birka

Georg Gunther, a veteran of the Olympiad training program, flew from Cornerbrook to be a part of the first week of training. It was Georg who introduced us to the idea of the evening debriefing session, where at the end of each day's activities we gathered together to talk informally about how the training was going. I was delighted that Arthur Baragar of the University of Nevada at Las Vegas, who was a member of Canada's very first team at the IMO in Washington in 1981, agreed to serve as Leader Observer and to assist in the training in Calgary. Arthur provided the students with some useful background in number theory and also shared his passion for geometric number theory. Richard Guy of the University of Calgary also served as a guest lecturer and an inspiring role model for the students. Thanks must go to Richard and his wife for generously making their house available one afternoon. We sat around his living room and watched a video of animated mathematics on television. There is something about seeing an animated construction of the Simpson line that is highly convincing.

After a week of activities, Georg Gunther had to head home. However, the cavalry rode over the hill in the form of J.P. Grossman, a former gold medal winning IMO contestant and now a doctoral student at M.I.T. J.P. is a top-notch trainer with a wealth of original problems and ideas to share with the students. He was a daily reminder to them that the colour gold was not too high to reach. On July 5, we gathered our belongings in a van rented by Bill Sands and moved from the University of Calgary campus to the beautiful Kananaskis

research station in the foothills of the Rocky Mountains. It only took me a few minutes to realise that the Kananaskis site would be excellent for training in mathematics. In a lovely setting with no outside distractions other than the scenery, we were free to work on challenging math problems and go for hikes.



Dr. Bill Sands and some of the team members in Kananaskis, Alberta

The IMO

As Leader Observer and Leader respectively, Arthur Baragar and I had to leave for Taiwan earlier than the students. So on July 9th, we were on our way, wishing our students the best of luck. J.P. Grossman and Dorette Pronk stayed with the students to finish the training. My first job as Leader was to sit on the jury and to work on the selection of the six problems for the competition. Fortunately, the jury members did not start from scratch; a problem selection committee narrowed down the choice to around thirty problems before we arrived. Once the activities of the jury began, Arthur and I were sequestered, and could not contact any of our contestants until after the final problem session of the competition was completed. We did get a chance to see how our team was doing at the opening ceremonies for the IMO. As no contact was allowed between jury members and contestants, the jury observed the opening ceremonies from the back of the auditorium. The contestants and dignitaries from around the world were seated in the front. The Canadian uniforms were distinctive. So we had no trouble identifying our team at the opening ceremonies. A total of 79 countries participated. That was down from the previous year in Argentina where 82 countries had assembled for the IMO.

There were a few surprises at this year's IMO. One surprise was an earthquake which shook parts of the island for a few moments while we were there. Sadly, four people in another part of Taiwan died from debris that fell as result of the earthquake. However for the IMO delegates centred in

Taipei, the earthquake was only a minor incident at the time it happened. Another surprise that I would not wish to be repeated at a future Olympiad was that many of the students had to sleep on bunk beds with no mattresses. While this is a commonplace practice in Taiwan, many students from North America, Australia and Europe were not accustomed to it.



The IMO team in Taiwan (l t r): Adrian Tang, Adrian Birka, Jessie Lei, J. P. Grossman (Deputy Leader), Jimmy Chui, Adrian Chan, Christopher Small (Team Leader), Mihaela Enachescu, Dorette Pronk (Deputy Leader Observer)

The 1998 IMO was heavy on number theory and geometry but was reasonably balanced on difficulty. Problem 6 was universally admired by the jury. It asked the contestants to consider all functions f from the set of positive integers to itself such that:

$$f(t^2 f(s)) = s(f(t))^2$$

for all positive integers s and t . The problem was to determine the least possible value of $f(1998)$.

Each year, medals are handed out at the IMO according to the following rules:

- No more than 50% of the students should receive medals.
- Among those receiving medals, the gold, silver and bronze medals are to be awarded as close to the ratio 1:2:3 as possible.

The Canadian team received the following medals:

Gold: Adrian Chan.

Silver: Mihaela Enachescu.

Bronze: Jimmy Chui, Adrian Tang.

Jessie Lei was awarded an Honourable Mention, which goes to any student who does not receive a medal but who gets a perfect score on at least one of the problems.

I was delighted with the performance of our team. I also especially pleased by the fact that Mihaela Enachescu was tied with one other woman from the U.S.A. as the highest scoring woman in the competition. Mihaela narrowly missed a gold herself.



The IMO Team after medal ceremonies: (back row, l to r) J. P. Grossman, Arthur Baragar (Leader Observer), Dorette Pronk, Christopher Small (front row, l to r) Mihaela Enachescu, Jimmy Chui, Adrian Chan, Jessie Lei, Adrian Birka, Adrian Chan.

The IMO is a competition between individuals, not countries. Therefore students are ranked and honoured in the closing ceremonies of each IMO. Nevertheless, international rivalries being what they are, countries sum the scores of their contestants and compare their summed scores with those of other countries. For those who keep track of such things, 1998 was a good year as Canada was ranked 20th out of the 79 countries.

There are many other stories of the 1998 IMO, most of them involving feet for some unexplained reason: the former male team member who showed up one day at the Winter Training Camp wearing high-heeled shoes, the sad story of a cheap frisbee that was artfully and cleverly decorated only to be crushed ignominiously by an awkward teenage limb, and the team member who bravely hiked through Johnston Canyon with bare feet. But perhaps these stories are not mine to tell.

NEWS FROM DEPARTMENTS

Bishop's University, Lennoxville, PQ.:

New Chair: Brad Willms.

University of British Columbia, Vancouver, B.C.:

Appointments (with date and field) Doebeli, Michael: July 1, 1999—evolutionary biology; Slade, Gordon: July 1, 1999—mathematical physics; Vatsal, Vinayak: July 1, 1999—number theory.

Retirements (with date) Anderson, Robert: December 31, 1998; Luft, Erhard: December 31, 1998; Page, Stan: July 1, 1999.

Awards: Barlow, Martin: FRSC; Ward, Michael: Christensen Fellow, Oxford

University of Guelph, Guelph, Ont:

Promotion: A.F.Desmond to Professor, effective July 1, 1998. Retirement: M.J.Code, effective June 1, 1998.

Université Laval, Quebec, PQ:

Promotion: Cornelius Greither to Associate Professor, effective June 1, 1998. Retirement: André Barbeau, effective January 1, 1999.

University of Manitoba, Winnipeg, Man.:

1. Dept. of Mathematics & Statistics

Retirements: Diane Dowling and Marlon Rayburn (both full Professors) on September 1, 1998; Hank Finlayson (Associate Professor) on September 1, 1998; Peter McClure and Robert Quackenbush (both full Professors) on January 1, 1999. These persons will become Senior Scholars in the Department.

2. Institute of Mathematics

Appointment: James Peters, Associate Director, Institute of Industrial Mathematical Sciences, from July 1, 1998.

University of Prince Edward Island, PEI:

Retirement: Winston Pineau, effective July 1, 1999.

Université de Sherbrooke, Sherbrooke, PQ.:

Retirement: Bernard Courteau (professeur titulaire) effective January 1, 1999.

Trent University, Peterborough,

Ont.:

Appointment: Reem Yassawi, Assistant Professor (2-year term).

University of Victoria, Victoria B.C.:

Appointments: Roderick Edwards, Applied Mathematics, from July 1, 1998; Julie Zhou, Statistics, from July 1, 1998.

Retirement: Roger Davidson, effective July 1, 1998.

Awards: Pauline van den Driessche was elected "Woman of Distinction" by YMCA/YWCA.

University of Western Ontario, London, Ont:

Retirement: Alden Bruen, on June 30, 1998.

New Chair of the Department of Mathematics from July 1, 1998: Rick Jardine.

University of Moncton, Moncton, NB:

Awards/Distinctions: Donald Violette, Professor at the Department of Mathematics and Statistics, has been chosen as one of the five most popular teachers by Maclean's magazine.

**BROCK UNIVERSITY
DEPARTMENT OF MATHEMATICS
FACULTY POSITION IN ANALYSIS**

The Department of Mathematics at Brock University invites applications for a three-year limited term appointment at the Assistant Professor level, pending final budgetary approval. The starting date is July 1, 1999.

The appointment is in Analysis. Applicants should have the Ph.D. in some area of Analysis, with demonstrated research potential and a strong teaching record. The appointee will be expected to apply for research grant funding and to teach a full range of undergraduate analysis courses, including differential equations and possibly numerical analysis.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Applications including a curriculum vitae and names of three referees should be sent to

**Prof. H. E. Bell, Chair,
Department of Mathematics,
Brock University,
St. Catharines,
Ontario, Canada L2S 3A1,**

for receipt by **March 8, 1999.**

Brock University is committed to a positive action policy aimed at reducing gender imbalance in faculty; qualified women candidates are especially encouraged to apply.

**QUEEN'S UNIVERSITY AT KINGSTON
DEPARTMENT OF MATHEMATICS AND STATISTICS**

The Department of Mathematics and Statistics at Queen's University anticipates hiring one to three post-doctoral fellows, each for a period of two years (non-renewable) beginning September 1, 1999. Fellows will teach one course per term (two terms per year).

Applicants, who must have received their doctoral degree after April 1997, will be considered only in the following area:

- Algebraic K-theory
- Commutative algebra and algebraic geometry
- Discrete Mathematics (with emphasis on algebraic graph theory)
- Invariant theory and homotopy theory
- Number theory

Each applicant must specify in which area he or she wishes to be considered.

Interested candidates should arrange that a curriculum vitae, a description of research interests, copies of up to five publications, at least three reference letters focusing on the candidate's research and at least one reference letter on the candidate's teaching to arrive at the address below. Candidates should have demonstrated interest and ability in teaching. Applications should be received by **March 31, 1999.**

**Professor James A. Mingo
Associate Head
Department of Mathematics & Statistics
Queen's University
Kingston, Ontario K7L 3N6
Canada**

Queen's University has an employment equity program and encourages applications from all qualified candidates, including women, aboriginal peoples, people with disabilities and visible minorities.

UNIVERSITY OF TORONTO
Ted Mossman Chair in Mathematics

Thanks to a generous gift from James Mossman, the Department of Mathematics, University of Toronto, is proud to announce a search for the Ted Mossman Chair in Mathematics. The appointment is at the level of Professor with tenure, and the Chair holder is expected to be an outstanding mathematician, whose research and teaching will make a major contribution to the quality and stature of the department. The appointment is effective July 1, 1999. Salary commensurate with experience.

Applicants should send a complete C.V., a short statement about their research program, and the names of four mathematicians who could be consulted about their work, to

The Ted Mossman Search Committee,
Department of Mathematics, University of Toronto,
100 St. George Street,
Toronto, Ontario M5S 3G3, Canada.

The deadline for applications is **February 19, 1999.**

In accordance with Canadian immigration requirements this advertisement is directed to Canadian citizens and to permanent residents of Canada. In accordance with its Employment Equity Policy, the University of Toronto encourages applications from qualified women or men, members of visible minorities, aboriginal peoples and persons with disabilities.

CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

MARCH 1999

8–12 Workshop on Interactive Measure-Valued Processes (The Fields Institute, Toronto, Ontario)
measure@fields.utoronto.ca;
www.fields.utoronto.ca/measure.html

APRIL 1999

9–23 Numerical Methods and Stochastics (The Fields Institute, Toronto, Ontario)
probability@fields.utoronto.ca;www.fields.utoronto.ca

MAY 1999

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

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

18–21 Vision Interface (VI'99)/Quality Control By Artificial Vision (QCAV'99) (Hotel Delata, Trois-Rivieres, Quebec)
http://www.dmi.usherb.ca/conferences/

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/

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

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

MARS 1999

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

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/

20–24 The Sixth Conference of the Canadian Number Theory Association (CNTA'99) (University of Manitoba, Winnipeg)
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.icicam99/

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)

JUILLET 1999

AUGUST 1999

July 26–Aug. 4 International Conference on Valuation Theory and its Applications, Conf. dedicated to Paulo Ribenboim (University of Saskatchewan)

fvk@usask.ca; http://math.usask.ca/fvk/Valth.html

14–19 Mathematical Problems arising from Biology
probability@fields.utoronto.ca; www.fields.utoronto.ca

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

AOÛT 1999

NOVEMBRE 1999

DÉCEMBRE 1999

JUIN 2000

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

9–13 CMS Summer Meeting / Réunion d’été de la SMC (McMaster University, Hamilton, Ontario)

Monique Bouchard: meetings@cms.math.ca

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

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

JULY 2000

11–24 41st International Mathematical Olympiad (Korea)

SEPTEMBER 2000

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

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

DECEMBER 2000

CMS Winter Meeting / Réunion d’hiver de la SMC (University of British Columbia, Vancouver, B. C.)

Monique Bouchard: meetings@cms.math.ca

JUILLET 2000

SEPTEMBRE 2000

DÉCEMBRE 2000

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February/février	December 15 décembre
March/mars	January 15 janvier
April/avril	February 15 février
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September/septembre	July 15 juillet
October/octobre	August 15 août
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