

CMS

NOTES

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In this issue / Dans ce numéro

Editorial	2
Book Review: Abelian groups and representations	3
Research Notes	4
From the Institutes	6
Education Notes	8
Shortage of Maths Teachers in the UK.....	10
Brief Book Reviews	11
The CMS in Cuba	17
Report on Chairs Meetings....	17
Call for Sessions / Appel de communications	19
CMS Summer Meeting 2002 Réunion d'été de la SMC 2002	22
Call for Nominations / Appel de Candidatures	34
News from Departments	36
Obituary / Avis de décès	37
Calendar of events / Calendrier des événements.....	37
Rates and Deadlines / Tarifs et Échéances	39

FROM THE PRESIDENT'S DESK



Jonathan Borwein

(voir la page 14 pour la version française)

I write in the immediate aftermath of the 2001 Winter Meeting and start by describing something of that meeting. I then touch upon some significant future activities and a few potential problems.

CMS Winter Meeting: The Canadian Mathematical Society's Winter Meeting 2001 was held at the Toronto Colony Hotel from December 8 to 10, 2001, hosted by York University. It was very successful both intellectually and socially. As with all our activities, our meetings rely on a great deal of local effort for which I express the Society's gratitude. The Meeting Director, Tom Salisbury, the Chair of Local Arrangements, Juris Steprans, together

with Stanley Kochman and the many helpers from the local department, deserve our especial thanks. So too does Monique Bouchard and the entire staff of the CMS Executive Office. I wish also to acknowledge the generous support of the National Programme Committee of the three Canadian Research Institutes (Fields, CRM and PIMS).

Following our now usual format, the meeting had six plenary speakers, a public lecture, five prizes and prize lectures, eight symposia, a contributed paper session, **many** business meetings, exhibits, and several social events. A planned poster session unhappily failed to generate enough submissions and had to be cancelled.

We were honoured to have the following distinguished plenary lecturers. Martin Golubitsky (University of Houston) "Oscillations in coupled systems and animal gaits", John Ockendon (Oxford University) "Simulating mathematics in industry", Arturo Pianzola (University of Alberta) "Local triviality and infinite dimensional Lie algebras", David Pimm (University of Alberta) "Interactions between language and mathematics: fluency, understanding and time", Richard Schoen (Stanford University) "Constructing calibrated submanifolds", and Dan Voiculescu (University of California, Berkeley) "Free entropy". Those talks I had an opportunity to attend were excellent – in both form and content.

(see PRESIDENT–page 12)

CMS NOTES
NOTES DE LA SMC

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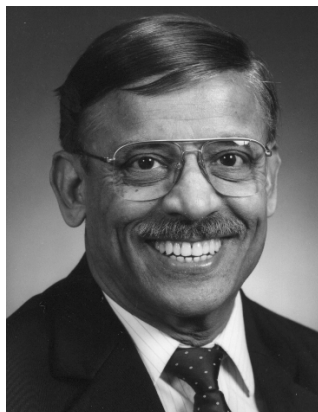
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EDITORIAL



S. Swaminathan

A colleague of mine teaching second year differential equations to a large class reports that among the quarter of the class that failed one of his term tests were students who rarely attended classes but took the test. Some of these students came over to meet him and became indignant when told that they were hardly present in the class. One of them, who had missed every class, laid the blame on his alarm clock which wouldn't work right although he had tried every single night since beginning of the term! Sounds familiar? We have all heard such excuses every term. The incident may be dismissed by reminding ourselves that every barrel of apples usually contains some bad apples. But the question remains as to how to ensure the attendance of students in classes. It is not practical to adopt the high school method of roll call. Some years ago, a survey of students was conducted to help determine the best allocation of staff at the Mathematics Help Center of a university department. One of the students wrote, "I used to go there regularly as long as Jennifer was also going, but not anymore after she dropped out."

A good solution could be to schedule weekly quizzes to be done in class and include these in the evaluation scheme. Even when students are physically present in a class there are cases

where many of them are not attentive to the lecture; they busy themselves with working on assignments due that day, usually copying from others.

We welcome readers' views on these matters.

Un de mes collègues qui donne un cours de deuxième année sur les équations différentielles à un grand groupe me disait qu'il y avait, dans le quart de la classe qui a échoué un de ses examens, des personnes qui se présentaient rarement au cours mais qui ont voulu essayer l'examen quand même. Quelques-uns de ces étudiants sont venus le voir et se sont indignés quand il a pointé du doigt leur manque d'assiduité. L'un d'eux, qui avait manqué tous les cours, a rejeté le blâme sur son réveil, qui ne fonctionnait pas même s'il le réglait tous les soir! Certes, vous connaissez la chanson, nous l'entendons chaque session. On peut minimiser l'importance d'un tel incident en se disant que tout groupe contient nécessairement quelques éléments moins bons. Mais il est quand même bon de se demander comment faire pour que les étudiants assistent aux cours. La prise des présences, comme au secondaire, n'est pas une bonne solution. Il y a quelques années, on a demandé à des étudiants quel serait le meilleur effectif à assurer au centre de ressources mathématiques d'une université. Ce à quoi un étudiant à répondu : « J'y allais souvent quand Jennifer y allait aussi, mais je n'y vais plus depuis qu'elle a abandonné le cours. »

Pour ramener les étudiants dans les classes, il pourrait être intéressant de leur faire passer de petits tests pendant les cours et de les compter dans la note finale. Bien des étudiants sont présents de corps, mais pas toujours d'esprit, occupés qu'ils sont à faire des travaux à remettre le jour même, le plus souvent en copiant sur les autres...

Vos commentaires sur la question sont toujours appréciés.

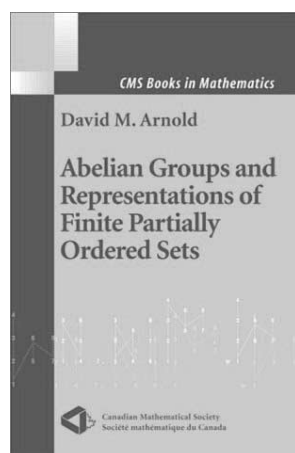
Abelian groups and representations

Book Review by R. Padmanabhan, University of Manitoba

Abelian groups and representations of finite partially ordered sets

by David Arnold

CMS Books in Mathematics/Ouvrages
de Mathématiques de la SMC
Springer-Verlag, New York, 2000
xii+244 pp



A recurring theme in classical mathematics is the existence and consequences of inter-relations between different mathematical structures. This is especially true in algebra. This is also the theme of this monograph: an exposition of inter-relations between representations of finite partially ordered sets and abelian groups. Emphasis is placed throughout on classification theorems, descriptions of the objects up to isomorphism, model-theoretic characterizations and computations of representation types, a measure of when classification is feasible. Historically, the idea of group representations occurs naturally in linear algebra e.g. the study of "matrix problems", such as

finding canonical forms or showing the equivalence of two matrices. This research monograph by a pioneer in the field of group representations of posets, offers an excellent and much-needed introduction to this active area of research.

The monograph has a total of eight chapters. Topics include: Representations of posets over a field, Torsion-free Abelian groups, Butler groups, Representations over a discrete valuation ring, Almost completely decomposable groups, Representations over fields and exact sequences, Finite rank Butler groups, Applications of representations and Butler groups.

Let k be a field and S a finite poset. A representation of S over k is defined to be a category with objects $U = (U_o, U_i : i \text{ in } S)$, where U_o is a (distinguished) finite dimensional k -vector space, each U_i a subspace of U_o , and if $i \leq j$ in the poset S , then U_i is contained in U_j . Morphisms are k -linear transformations $f : U_o \rightarrow U_o$ with $f(U_i)$ a subset of U_i for each i in S . Chapter I is an elementary introduction to fundamental properties of representations of finite posets over a field. Basic notions of countable torsion-free abelian groups and relationships between Butler groups of finite rank and representations of finite posets over a field are discussed in the next two chapters. Recall that a (finite rank) Butler group is a homomorphic image of a finite direct sum of subgroups of the rational numbers \mathbf{Q} under addition. From the model theory point of view, the class of all such groups is the smallest class of torsion-free abelian groups that contains all

rank-1 groups and is closed under isomorphism, finite direct sums, pure subgroups and torsion-free homomorphic images. Among the researchers in this area, it is well-known David Arnold was mainly responsible for "popularizing" Butler groups through several papers and his 1981 book on this topic.

Most classical books on Abelian groups were written before the main development of Butler groups and group representations of finite posets. So this is the unique book of this kind. In this book, we witness a wealth of interaction between such general topics as linear algebra, rings and modules, categories, Abelian groups (both torsion and torsion-free), Boolean algebras and even combinatorics. At the end of each chapter, the author provides some exercises, useful notes, chapter summaries and a brief guide to the published literature. With over 210 references, this monograph provides a rich resource of information for a variety of readers from advanced graduate students of algebra to experts working in this field. Some open problems are also mentioned. The book ends with showing clearly how the representation theory of posets can be applied to the study of valuated p -groups, an extremely useful topic for further study of this branch of algebra. In conclusion, I have no hesitation to say that Arnold's book is a valuable contribution to the subject of representations of posets. Advanced graduate students will find it an accessible introduction to the subject, and established algebraists will be able to use the information contained here in their own research.

CORRECTION ...

In our report of the speeches at the opening of the Banff International Research Station (December 2001 Notes), "National Sciences and Engineering Research Council" should have been "Natural Sciences and Engineering Research Council". The complete and corrected text can be found at <http://www.pims.math.ca/birs/announce.html>

RESEARCH NOTES

Ian Putnam and Noriko Yui, Column Editors

Banff International Research Station (BIRS)

This past May, I had the opportunity to talk with Bob Moody about the proposal for the Banff International Research Station (BIRS). We met during a conference on Aperiodic Order held at Oberwolfach. (Bob was one of the organizers.) Our discussion of BIRS there seemed particularly appropriate as the Mathematisches Forschungsinstitut Oberwolfach provided the main model and the inspiration for BIRS. Since our conversation, the proposal has become a reality: BIRS will be operational in March 2003, with Moody as its first Scientific Director.



Robert Moody

To begin with some background information, the Pacific Institute for the Mathematical Sciences (PIMS) and its Director, Dr. Nassif Ghoussoub, wanted to create an Oberwolfach-style institute in the Canadian Rockies. As the idea developed into BIRS, it became a joint venture of PIMS and the Mathematical Sciences Research Institute (MSRI) in Berkeley. This makes it an international endeavour and a first of its kind. To date, PIMS has contributed \$100,000 to the project. For its operations, BIRS will annually receive \$200,000 from PIMS and \$500,000 from each of NSERC (Canada), NSF (USA) and ASRA (Alberta). The initial commitment is for a term of three years. Also, PIMS hopes to more than double its contribution in order to expand the operation, in anticipation of a long term partnership with NSF and the Alberta government.

Two million dollars a year seems to be a great deal of money for mathematicians, but Moody points out that, within the realm of science, it is relatively cheap and promises many benefits. "Government attitudes toward mathematics are better today than in the past. With the development of computers,

information technology has become a large part of our world and mathematicians' contributions to this are valued. Developments with industrial applications and areas like cryptography are also changing the role of mathematics. Mathematics is seen as increasingly relevant."

Physically, BIRS will occupy space (in fact its own building) at the Banff Centre: a truly wonderful facility, just outside the centre of the town of Banff. Participants will live and work at the Centre, which is also a host to a highly prestigious school for fine arts and many conferences.

BIRS will operate a number of different programs. The principal of these is the five-day workshops, which will involve groups of up to forty researchers. Other BIRS programs include two-day weekend workshops; focused research groups where eight to 15 people can work for two to four weeks; research in teams where two to four people can work for two to four weeks; summer schools and graduate research camps. Attendance will be by invitation only, but once there, BIRS will cover all living expenses. The participants themselves, however, must cover travel expenses. (Recently, some departments have initiated programs to help cover these costs for graduate students, post-doctoral fellows and others without their own support who are invited.)

Moody points out that one major advantage of this system is to streamline the organizational procedure. "Organizers of conferences or workshops won't need to worry about the usual difficulties such as accommodation and distribution of the budget. Once the list of participants is finalized, the members of the BIRS staff take care of the rest." The evidence from the success at Oberwolfach and at Luminy in France shows that this kind of centre can have a huge impact. While Oberwolfach is clearly a model to emulate, Moody hopes that BIRS will develop its own style and traditions as time goes on.

The BIRS scientific panel will review all proposals for workshops and other projects. Moody says that the panel members will endeavour to make opportunities for representation in all areas of the mathematical sciences, including statistics, computing science, mathematical physics, biomathematics, as well as industrial mathematics. Summer schools and weekend meetings will allow graduate students, teachers, and others in education to participate. He stresses that the key ingredient for success is the quality of proposals.

Moody has a great range of new ideas for Banff. He hopes that the mathematicians can form various connections with many of the other programs already in place there. For example, there are possibilities for mathematicians to develop multi-media technology in conjunction with engineers and artists and to get writers involved with writing about science. He also talks about the culture of the Banff Centre as a creative place where mathematics can flourish. Beyond the scientific

side, the Centre's active concert schedule will be an extra benefit for him and all BIRS participants.

While Moody is clearly enthusiastic and excited about BIRS, his position as scientific director will mean some personal difficulties for him. The most obvious being geographic: Banff is a considerable distance from Edmonton and travelling back and forth will be grueling. Even so, Moody hopes to spend a few days of each week at the centre so he can be actively involved. "I really marvel at (PIMS Director) Nassif Ghoussoub's powers of persuasion in convincing me to undertake the project. But I also feel that it is important to have someone from Alberta showing leadership in the project. And, of course, I think this will be a great resource for mathematics in Canada."

Moody feels that BIRS is indicative of a maturing within Canadian mathematics. It will advance Canadian mathematics in the world and give us new ties, especially with the US. "I think that the Canadian community has never been stronger, more vibrant, nor in a better position for resources. Also, the institutes have given us a new confidence in ourselves."

The BIRS project is a tremendously exciting endeavour. It was a pleasure for me to see Bob's enthusiasm and vision for its future.

– Ian Putnam

Presentation of the 2001 CRM/Fields Prize

In a ceremony at the Fields Institute on October 25, the Director, Ken Davidson, presented the CRM/Fields Prize to William T. Tutte of the University of Waterloo for his contributions to combinatorial mathematics and to the development of mathematics in Canada.

After the presentation, Professor Tutte gave a lecture entitled "Sixty years in the nets", in which he described one thread of his research which began when he was a chemistry student at Cambridge. The starting point was a simply stated but non-trivial recreational mathematics problem: dissect a square into smaller non-congruent squares. Tutte had been introduced to graph theory through the book "Mathematical Recreations and Essays" by W.W.Rouse Ball, and he and three fellow students solved the problem by associating a graph to any dissection of a square. Their solution involved interpreting the graph as an electrical circuit to which Kirchoff's Laws of circuit theory could be applied. In the course of solving the problem, they devised an algorithm that became – and still is – the standard algorithm for computing the impedances of electrical networks.

His talk touched on several further developments ensuing from this problem, and culminated in a discussion of the chromatic polynomial $P(G, \lambda)$ of a graph G . It is defined as the number of ways of colouring a graph (with each vertex of a different colour than its neighbours) with λ different colours. Extensive calculations of the zeros of $P(G, \lambda)$ were carried out for triangulations of the plane leading to a truncated icosahedron. Tutte noticed that almost all of them had a

zero close to $1 + \tau$ where τ is the "Golden Ratio" $\frac{1}{2}(1 + \sqrt{5})$ and subsequently proved the beautiful theorem that if T is a planar triangulation with k vertices, then

$$|P(T, 1 + \tau)| \leq \tau^{5-k}.$$

The lecture was followed by a reception in the Fields Institute atrium.

Alberta mirror for Zentralblatt

The University of Alberta has announced the establishment of a mirror for "Zentralblatt für Mathematik", an abstracting and reviewing service in pure and applied mathematics. From the Zentralblatt webpage: "The MATH Database contains more than 1.8 million entries drawn from more than 3000 serials and journals. The entries are classified according to the Mathematics Subject Classification Scheme."

For those wishing to avail themselves of this service, the URL is: <http://zmath.library.ualberta.ca/ZMATH>.

For full access, an institutional subscription is required (non subscribers can only have limited access).

Fields Institute Coxeter Lectures

The 2001 Coxeter Lectures were delivered by Gene Golub of Stanford University on "Matrices, moments and quadrature", as part of the Fields Institute's thematic program on "Numerical and Computational Challenges in Science and Engineering".

Golub is the Fletcher Jones Professor of Computer Science and a former director of the Scientific Computing and Computational Mathematics Program at Stanford. He is the recipient of many honours – the B. Bolzano Gold Medal for Merit in the Field of Mathematical Sciences of the Czech Republic, and membership in the National Academy of Sciences and in the National Academy of Engineering are just a few of them.

Golub's work in matrix computation is involved with algorithms for solving numerical problems arising in science and statistics. In the Coxeter Lectures, he focused on the estimation of the quadratic form $u^T F(A)u$, where A is an $n \times n$ symmetric, positive definite matrix, u is a real vector and F is an analytic function. This simple matrix problem has applications to many problems. For instance one can give upper and lower bounds for the error in a linear system of equations when an approximation is given. And it is useful in certain statistical techniques such as evaluating the Generalized Cross Validation (GCV) function advocated by Grace Wahba.

The basic tool for making this evaluation is Gauss (Radau) quadrature. These rules can be generated using the Lanczos algorithm which is analogous to the classical algorithm for generating orthogonal polynomials. The methods require few arithmetic operations but yield highly accurate results. In addition, the basic procedure can be used for estimating the determinant of large sparse matrices by Monte Carlo. Such methods are especially useful in QCD computations.

FROM THE INSTITUTES

Math Online at Fields

The Fields Institute's Mathematics Online Working Meeting took place during November 15-17, 2001. It was organized by George Gadanidis (University of Western Ontario), Lynda Graham (Sheridan College), Douglas McDougall (OISE/University of Toronto), and Geoffrey Roulet (Queen's University).

There is a growing interest in offering mathematics education online. Colleges already offer a large number of mathematics courses online and some school districts are making commitments to provide some fully web-based mathematics courses. Universities are moving in this direction as well. The landscape of online mathematics learning is changing rapidly and many institutions appear to be in a hurry to put 'something' online. The Fields Institute's Mathematics Online Working Meeting arose from a concern that early and hurried implementation of online mathematics education programs may establish an unintended and possibly undesirable pedagogical direction.



Ann Heide and Douglas McDougall

The Working Meeting involved approximately sixty mathematics educators from Ontario, with some representation from other provinces and from the United States. Participants came from the elementary, secondary, college and university panels. Following keynote addresses by Ann Heide (University of Ottawa) and Jonathan Borwein (Simon Fraser University), working groups considered the following discussion themes:

1. Visions and opportunities: What online mathematics learning experiences are we trying to create? How may online teaching create a learning culture that promotes inquiry and problem solving? What current 'best' classroom practices do

we want to see manifested in online courses? What online teaching/learning tools/technologies do we need in order to implement our vision?

2. Issues and challenges: What are the issues around pedagogy and implementation? What are current exemplary practices? How do we ensure that online education - whether it is fully online, partially online, or designed as support for classroom teaching - avoids undesired pedagogical directions? How do we accommodate different learning and teaching styles?

3. Recommendations: Where do we want to be five years from now? How will we get there?

A full report on the meeting will be available at the Fields Institute's web site, <http://www.fields.utoronto.ca>, in the spring of 2002.

PIMS Update

February 18–21 2002: PIMS Around Group Rings Seminar, Jasper AB, see the web page <http://pims.math.ualberta.ca/AroundGroupRings.htm>

February 21-23 2002: PIMS Workshop on Representations of Reductive p-adic Groups, Banff AB, see the web page <http://www.pims.math.ca/science/2002/rrpg/>

May 4–6 2002: PIMS Thematic Programme on Selected Topics in Mathematical and Industrial Statistics: Workshop on the Role of Statistical Modeling in the 21st Century, SFU

May 11–19 2002: 1st PIMS School of Mathematical Biology for Senior Undergraduates, University of Alberta

May 18–23 2002: 5th PIMS Graduate Industrial Math Modelling Camp, SFU, see the web page <http://www.pims.math.ca/industrial/2002/gimmc/>

May 23–25 2002: 3rd MITACS AGM, UBC

May 27–31 2002: 6th PIMS Industrial Problem Solving Workshop, UBC, see the web page <http://www.pims.math.ca/industrial/2002/ipsw/>

June 10–14 2002: PIMS Summer School on Applications of Computational Geometry, SFU

June 2002: PIMS-NSF Workshop on Inverse Network Problems, UBC and University of Washington

June 16-18 2002: PIMS-MITACS Workshop on Facility Location Problems, SFU

July 1-5 2002: PIMS Thematic Programme on Asymptotic Geometric Analysis: Conference on Convexity and Asymptotic Theory of Normed Spaces, PIMS at UBC

July 8-12 2002: PIMS Thematic Programme on Asymptotic Geometric Analysis: Concentration Period on Measure Transportation and Geometric Inequalities, PIMS at UBC

July 14-23 2002: PIMS Thematic Programme on Asymptotic Geometric Analysis: Workshop on Phenomena of Large Dimensions, PIMS at UBC

July 24-August 5 2002: PIMS Thematic Programme on Asymptotic Geometric Analysis: Focused Research Groups on Random Methods and High Dimensional Systems, PIMS at UBC

July 2-7 2002: PIMS Canadian Undergraduate Mathematics Conference, University of Calgary

July 7-12 2002: 5th Americas Conference on Differential Equations and Nonlinear Dynamics, University of Alberta, see the web page <http://www.math.ualberta.ca/mli/americas.htm>

July 22-August 02 2002: PIMS Frontiers in Mathematical Physics Workshop on Brane Worlds and Supersymmetry, UBC

Announcement of 2002 CRM-FI Prize

The Centre de recherches mathématiques and the Fields Institute are very pleased to announce that Professor John B. Friedlander, FRSC, of the University of Toronto is the recipient of the 2002 CRM-FI Prize. A full description of Friedlander's contributions will appear in an article in the March issue of the Notes.

Le Centre de recherches mathématiques et le Fields Institute sont très heureux d'annoncer que le Professeur John B. Friedlander, FRSC, de l'Université de Toronto, est le récipiendaire du Prix CRM-FI pour l'an 2002. Une description complète des contributions de Friedlander paraîtra dans le numéro de mars des Notes.

UPCOMING CONFERENCES

Congrès à la memoire de Jacques-Louis Lions

Un congrès de mathématiques appliquées à la memoire de Jacques-Louis Lions se tiendra au College de France (Paris) du 1 au 5 juillet 2002. Les informations se trouvent à l'adresse url :

<http://acm.emath.fr/congres-jllions/>

Pour toute demande de renseignement et pour s'inscrire, envoyer un courrier à l'adresse:

congres.jllions@ann.jussieu.fr

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CMESG 25th Anniversary Conference

2002 will be the year of the 25th Anniversary meeting of the Canadian Mathematics Education Study Group (CMESG), and we would like to make sure that all our friends in the Canadian mathematics community are aware of this special event.

The 25th Anniversary conference will be held at Queen's University, May 24-28, 2002. The theme will be: Lessons From the Past / Questions for the Future. Additional details will be appearing soon on our web site: cmesg.math.ca

The conference program co-ordinator is David Reid (david.reid@acadiau.ca).

Third Annual Colloquiumfest

University of Saskatchewan – March 2002

The Third Annual Colloquiumfest will be held at the University of Saskatchewan in March 2002. There will be seminar talks daily Monday through Thursday, March 18 through 21, with the Colloquiumfest proper taking place on Friday and Saturday, March 22 and 23.

The emphasis of this year's Colloquiumfest is on Algebraic Geometry, Real Algebraic Geometry and Computational Algebra.

The tentative list of speakers includes:

Vincent Astier (Dublin),

Roland Auer (Groningen),

Tom Craven (Hawaii),

Dale Cutkosky (Missouri),

Hagen Knaf (Kaiserslautern),

Jochen Koenigsmann (Basel),

Edward Mosteig (Tulane),

Pablo A. Parrilo (ETH Zürich),

Florian Pop (Bonn/Princeton),

Marius van der Put (Groningen),

Tara Smith (Cincinnati),

Bernd Sturmfels (Berkeley),

Markus Tressl (Regensburg).

See the Colloquiumfest website

<http://math.usask.ca/fvk/Mb3.htm> for latest program information including arrival and departure times. If you wish to attend please contact the organizers Franz-Viktor Kuhlmann, Salma Kuhlmann, Murray Marshall, by e-mail: fvk@math.usask.ca, skuhlman@math.usask.ca, marshall@math.usask.ca.

EDUCATION NOTES

Ed Barbeau and Harry White, Column Editors

Pourquoi enseigner les mathématiques à tous?

Dans nos sociétés contemporaines, les programmes scolaires ont en commun de tous reposer sur deux piliers principaux: l'apprentissage de la langue maternelle et l'apprentissage des mathématiques (auxquels vient s'ajouter, le cas échéant, l'apprentissage comme langue seconde de l'anglais, la *lingua franca* d'aujourd'hui). Si la prépondérance de la langue maternelle va de soi, on peut se demander pourquoi les mathématiques se retrouvent partout comme l'une des deux "grosses matières", pour reprendre l'expression usuelle dans le jargon scolaire. On avance souvent à cet égard que les mathématiques constituent l'une des "langues" dont l'école doit assurer l'apprentissage par les jeunes (à côté des langues maternelle et seconde, voire de l'informatique). Pour juste qu'elle soit, cette vision des mathématiques n'en est pas moins incomplète et réductrice. J'aimerais évoquer ici quelques aspects du rôle fondamental des mathématiques dans nos sociétés et tenter d'éclairer ainsi la place primordiale qu'elles occupent à l'école.

Quand je pense à la nécessité d'enseigner les mathématiques à tout le monde, je pense bien sûr aux mathématiques en tant qu'outil. Un outil d'une "efficacité déraisonnable", pour reprendre l'aphorisme célèbre du physicien Wigner. Un outil au service de tant de domaines de l'activité humaine, depuis les sciences naturelles jusqu'aux sciences sociales, en passant par l'administration, l'ingénierie ou les techniques. Les mathématiques y jouent un rôle vital non seulement en tant que langage de communication ou instrument de modélisation, mais surtout comme véhicule de conceptualisation de notions difficilement saisissables, voire carrément impénétrables, autrement. Elles constituent également un outil essentiel pour le citoyen, afin que ce dernier puisse fonctionner au quotidien en tant que consommateur avisé ou encore apprécier à sa juste valeur l'information quantitative dont on le bombarde sous forme de sondages, de graphiques, de tableaux numériques.

Mais quand je pense à la nécessité d'enseigner les mathématiques à tout le monde, je ne m'arrête pas qu'à leur aspect utilitaire. Je pense aux mathématiques pour tous en vue du développement d'aptitudes qui, à défaut d'être l'apanage des mathématiciens, ne se retrouvent nulle part ailleurs mises en évidence de façon aussi claire et aussi percutante. Je pense aux mathématiques comme facilitant l'acquisition d'une saine rigueur de pensée et le déploiement d'un esprit attentif aux liens — déductifs ou autres — pouvant exister entre des concepts *a priori* disjoints. Les mathématiques soutiennent le citoyen qui, face à toutes sortes de situations plus ou moins complexes, est appelé à analyser, comprendre, prendre des décisions, ce qui exige de sa part des habiletés à formuler et à résoudre des problèmes. Elles ren-

dent naturelles l'observation de régularités et l'émergence de structures, là où pouvait régner l'informe. En favorisant l'identification des hypothèses et l'explicitation de leurs conséquences, les mathématiques combattent la confusion ainsi que la rhétorique fallacieuse qui pourrait s'y nourrir. Loin de brimer la créativité, cette nécessaire rigueur de la pensée mathématique en constitue au contraire un ferment, la contrainte de la justification de ce qu'on avance forçant à aller au delà de l'intuition première.

Mais quand je pense aux mathématiques pour tout le monde, je n'ai pas à l'esprit que leurs applications multiples ou encore l'hygiène de l'esprit. Je pense aux mathématiques comme un élément charnière dans le développement de l'humanité, élément qui prend ses racines dans la plus haute Antiquité et qui se retrouve dans la culture de toute civilisation, bien que parfois à des stades d'accomplissement variés. Je pense aussi aux mathématiques en tant que composante cruciale du cheminement de l'individu, comme un atout dans une carrière professionnelle pouvant s'étaler sur quelque trente-cinq années et nécessitant par le fait même de grandes capacités d'adaptation et d'évolution. À l'opposé d'une compétence spécifique à courte vue ne visant que les besoins immédiats, les mathématiques se présentent comme un élément robuste dans une formation de longue portée.

Quand je pense aux mathématiques pour tous, j'ai à l'esprit une métaphore riche et puissante de la réalité. Non que les mathématiques soient la seule façon de saisir l'univers, ni la plus importante ou encore la meilleure, mais les ignorer revient à se couper d'une vision fondamentale et essentielle. Je pense aux mathématiques comme un médium absolument unique pour voir les choses autrement, pour les mettre plus clairement en perspective les unes par rapport aux autres. Je pense aux mathématiques pour voir des choses qui demeureraient imperceptibles autrement, des choses ne pouvant être appréhendées que par le biais d'une approche mathématique. Je pense aux mathématiques comme permettant d'atteindre l'inaccessible, tel Thalès ramenant la hauteur de la pyramide de Chéops à celle de son ombre, accessible à la mesure.

Quand je pense aux mathématiques pour tout le monde, je pense aux mathématiques comme antidote par excellence contre l'absolutisme, forme extrême de la violence. Je pense aux mathématiques pour contrer la certitude crasse, malgré que la vérité mathématique soit perçue, non sans une certaine raison d'ailleurs, comme la quintessence de la certitude. Je pense aux mathématiques nous montrant certaines vérités, telles les vérités euclidiennes, perdre leur caractère dogmatique et devenir des réalités parmi d'autres. Je pense aux mathématiques comme un laboratoire d'une "culture du conditionnel", comme lieu d'élaboration de vérités sous conditions, de vérités relatives à la présence ou non de certaines

prémises. “Si ceci était, alors . . . ; mais si cela était, alors . . .” Je pense aux mathématiques comme permettant de cultiver la nuance et le doute, de développer le jugement et l’esprit critique, d’aller au cœur des choses. Je pense aux mathématiques comme alimentant en fin de compte le rêve, qui toujours, par delà les savoirs et les savoir-faire, distinguera l’homme de la machine.

Quand je pense à la nécessité d’enseigner les mathématiques à tout le monde, je pense à leur transformation, plusieurs siècles avant notre ère, par les penseurs grecs qui en ont fait essentiellement les mathématiques telles que nous les connaissons. Et à la façon dont ces penseurs se sont démarqués de leurs prédécesseurs par le rôle central accordé dans la démarche mathématique à l’argumentation. Mais pourquoi cela s’est-il passé “en Grèce et pas ailleurs, au vie siècle et pas à une autre époque?”, demande Léa, la jeune héroïne du roman *Le théorème du perroquet*, à son mentor.

“Parce que les penseurs grecs”, répond M. Ruche, “ne sont ni esclaves ni fonctionnaires d’État, comme les mathématiciens-calculateurs babyloniens ou égyptiens qui, eux, appartenaient à la caste des scribes ou à celle des prêtres, détenant le monopole de la connaissance et du calcul. Les penseurs grecs n’ont de comptes à rendre à aucune autorité. Il n’y a ni roi ni Grand Prêtre pour décider quelle sera la nature de leur travail ou pour poser des limites à leurs études. Les penseurs grecs sont des hommes libres!”

(Denis Guedj, *Le théorème du perroquet*, Éditions du Seuil, 1998, p.179)

– Bernard R. Hodgson (Université Laval)

More articles from IJMEST

In October, I presented summaries of some articles from Volume 31, Number 1 (January-February, 2000) of *International Journal of Mathematical Education in Science and Technology*. Here are three more.

Perceptions of the tertiary learning environment: is mathematics worth the effort?, Helen J. Forgasz & Gilah C. Leder,

Australia. This study of students’ perceptions of the tertiary mathematics learning environment involved 1883 students from five Australian universities, 71 of whom were interviewed in more detail. While the level of satisfaction varied with the institution, a significant number of students enjoyed mathematics less at university than at school. The authors report that their findings suggest “a number of learning environment dimensions that departmental staff can address which may increase student satisfaction. Students’ suggestions for the need for better teachers and tutors, better course advice, more social contact within departments, a ‘space of their own’, and raising awareness of potential career paths are worthy of consideration. . . . In their experience, the university seemed to be reluctant to follow the lead of the school sector in revamping mathematics curricula and assessment methods.”

The visibility of models: using technology as a bridge between mathematics and engineering, Phillip Kent & Richard Noss, United Kingdom. The first year undergraduates at Imperial College were given a six-hour introductory course in *Mathematica* in which they had to analyze two examples dealing with structures. While they did not have to understand the underlying mathematics, they were asked to experiment with computer models, and thus gain some mathematical experience that goes beyond merely using it as a “toolbox”. Thus, a middle road is found between the poles of studying mathematics in its own right and of perceiving it as a succession of recipes.

Mathematical reasoning and familiar procedures, Johan Lithner, Sweden. The grappling of four first-year calculus students with two tasks – an optimization problem and the sketching of the graphs of the derivative and indefinite integral of functions with given graphs – is recorded and analyzed. As one would expect, the approaches are superficial and the students are unable to effectively evaluate the progress of their work.

LETTER TO THE EDITORS

We should be all grateful to Janos Aczel for his brief letter (CMS Notes, Vol 33, No. 5) emphasizing George Duff’s eminent service to the Comptes rendus mathématiques / Mathematical Reports of the Academy of Science (the Royal Society of Canada). In fact, the March, 1998 (Vol. 20) issue of this journal was dedicated to Professor George F. D. Duff, FRSC

“with grateful thanks for his vital contributions as a member of the Editorial Board, as well as the Production and Managing Editor of this journal for the past 10 years.”

Vlastimil Dlab and M Ram Murty
(Editors-in Chief, Math Reports)

The Critical Shortage of Maths Teachers in the UK

by Simon Singh

This article is reprinted from the London Daily Telegraph, September 26, 2001. Simon Singh is the author of Fermat's Enigma and The Code Book.

Last month I spent a deeply depressing afternoon in the company of Tony Gardiner, lecturer at Birmingham University's School of Mathematics. We had asked various experts to email us their views on the desperate lack of maths teachers in secondary schools, and for hours we pored through their dependent replies. "There are times in life," says Dr Gardiner, "when it's hard not to despair. For those who care about mathematics, schools, teachers and children, now would appear to be such a time."

The teaching crisis hit the headlines shortly before the new school year, with reports of thousands of unfilled posts and one survey showing that one third of newly qualified teachers leave within three years. Whatever the general situation, it is even worse in mathematics, which is why next week the Open University is hosting a conference to address the maths crisis.

I am a science writer, not a maths teacher, but I do regularly lecture in schools, so repeatedly I hear about the desperate situation in maths departments. I have met teachers who were obviously dedicated and capable, but who were resigning at the end of the year. Even more worrying, a friend's 73-year-old father has been asked to come out of retirement to teach at an independent school. Although he is a fine teacher, this is symptomatic of a profession that has given up hope of finding new recruits.

The Government will admit to just a couple of hundred unfilled maths posts, but this number has so much spin that it is gyrosopic. Ministers ignore the many maths posts filled with temporary (and expensive) supply teachers or those from overseas, or teachers whose qualifications are in geography rather than mathematics. Schools cannot be picky, and one headmaster in a Northwest comprehensive was recently quoted as saying, "We are appointing staff, who in a perfect world, we would not touch with a barge pole." Alison Wolf of the Institute of Education estimated that we need at least 5,000 more properly qualified maths teachers. If a teacher works with roughly 100 students, then 500,000 students are to some extent missing out on a decent maths education.

Matthew Horne's report for Demos says that "Teaching has become an unsustainable profession." Perhaps it is time to consider drastic solutions, such as making maths GCSE optional. That way, at least we would have enough qualified teachers to cover GCSE and A level. If you do not have the teachers, then it makes sense to discourage students. It is a shameful suggestion, but in five years it may be unavoidable.

You might consider this suggestion absurd, but it is serious compared to the possibility that any government might actually acknowledge the severity of the problem. In 1992,

a survey showed that less than 40% of maintained secondary schools maths teachers had a qualification involving a "significant amount of mathematics", but the Conservatives ignored the problem.

Today Labour is in charge and Estelle Morris is Education and Skills Secretary, so she needs to act immediately, unless she wants to undermine the positive moves resulting from numeracy strategies and reforms in primary education. In Tony Gardiner's opinion, "The government and its officials need to be reminded of that most basic of all principles: When in a hole, stop digging, make an honest attempt to take stock, and look for the most likely sources of help!"

A short term solution would be to help the estimated 25,000 maths teachers who would benefit from extensive mathematical retraining. These teachers are invaluable, but they currently know more about glaciers than geometry, and they need support. A medium term recruitment measure is to target university maths departments. If departments were awarded £10,000 for each graduate who completed 5 years of teaching, then perhaps they would encourage their graduates to become teachers. Furthermore, teachers who can communicate their passion for their job should be paid to visit university departments on recruiting drives.

Another positive measure would be the introduction of more classroom assistants. Teachers would feel valued and supported, pupils would receive more attention, and some assistants would in due course qualify as teachers. More classroom assistants might also deal with the increasing problem of classroom discipline. I suspect that many of those who leave teaching within three years are not prepared to put up with the small minority of students who can disrupt an entire class. Exclusion is never the ideal solution, but when the education of the majority is jeopardised by a minority, then it has to be considered. Teachers and students need to know that there is the ultimate sanction.

Naturally, better pay would also help recruitment and retention, but using money to address all the other issues is equally, if not more, crucial. These are only suggestions, and I may be completely wrong, but at least I get a tick for acknowledging the problem. Some argue that highlighting the problem only further discourages people from entering the profession, but it is the failure to take action that is the real disgrace. Teaching is a vital profession, which can be rewarding and fulfilling, and the government has no excuse for not dealing with the current crisis.

The teaching crisis exists in many other subjects, and it needs to be addressed across the board, but it is worst in maths, followed by physics and technology. This is partly because in the Information Age those who could teach these subjects can easily find jobs elsewhere, which leads to a vicious circle.

Without enough qualified maths teachers, fewer pupils will take A level maths let alone a maths degree, then we will not have enough mathematicians to drive the computer and internet economy, but those who do exist will get snapped up, and even fewer will go into teaching, so even fewer pupils will study maths, and so on.

So instead of weakening the future economy by failing to sort out the teaching crisis, costing us countless billion of pounds, it makes sense to invest a fraction of that money now to solve the problem.

The rewards would be phenomenal. Working this out does not require a PhD in number theory.

BRIEF BOOK REVIEWS

S. Swaminathan, Dalhousie University

The Education of a Mathematician,

by Philip J. Davis

A.K.Peters, 2000, xii+353 pp.

Using his own education and professional life as a framework for discussing a few recent developments in mathematics, the renowned author Phil Davis presents in this book a series of reflections on the interconnections among mathematics, science and philosophy. The book is divided into thirteen parts, each of which consists of short essays on autobiographical episodes or anecdotes about mathematicians or mathematical topics. There is very little technical material in the book. Thus it is a book from which a general reader can learn about the development of a mathematician and about the role that mathematics plays in war and peace, and about the interaction between mathematics and society.

An interesting feature of the book is that the author attempts to update the ghost of President Thomas Jefferson of the U. S. on the current state of mathematics and how it is connected with society. Why Jefferson? Because he knew a bit of mathematics and more than a bit of science. He knew the leading French mathematicians and scientists of his day; indeed, he had said that if he had not gotten involved with politics he would devoted his life to mathematics and science. The three parts of the book devoted to this feature affords quite an interesting and enjoyable reading.

Higher Regulators, Algebraic K-Theory, and Zeta Functions of Elliptic Curves,

by Stephen J. Bloch

CRM Monograph Series

Amer. Math. Soc. 2000, ix + 97 pp.

This book is a belated record of lectures given by the author at CRM. From the authors' abstract: The work of Armand Borel on higher regulators for number fields is discussed. The Borel regulator for K_3 of a number field is described explicitly in terms of the dilogarithm function. A generalization based on functions related to the dilogarithm and to the Dedekind η -function, leads to a regulator for K_2 of an elliptic curve E over a number field. Elements in $K_2(E)$ analogous to cyclotomic units are described. The regulator is evaluated on these elements and the resulting values related to the value of Hasse-Weil zeta function of E at $s = 2$ when E has complex multiplication. This regulator formula is worked out in detail for the case of E defined over Q with complex multiplication by the ring of integers in an imaginary quadratic field, when it takes a particularly simple form. In a separate note the author says that "since this work was done, fundamental ideas of A. Belinson, A. Suslin, V. Voevodsky, and others have totally transformed the landscape. Sometimes it is fun to drive around in a Model T-Ford but one should be aware that there are much faster cars on the road."

Analysis of Communication Networks: Call Centres, Traffic and Performance,

edited by David R. McDonald and Stephen R. E. Turner

Fields Institute Communications,

Amer. Math. Soc., 2000, ix + 200 pp.

This volume contains the proceed-

ings of the Workshop on Analysis and Simulation of Communication Networks held in November 1998 at the Fields Institute for Research in Mathematical Sciences, Toronto. The workshop was divided into two main themes, entitled 'Stability and load balancing of a network of call centres' and 'Traffic and performance.' The papers in the volume, which have been refereed, are representative of both the themes. The call centre industry is a fairly new one, but is large and growing fast. In order to provide the best possible customer service, the industry needs good mathematical models. The first part of the volume contains six papers focussing on probabilistic issues involved in optimizing the performance of a call centre. The remaining four papers belong to the second theme of the conference, on the characterization of traffic streams and their impact on the performance of a queueing system.

Constructive, Experimental, and Nonlinear Analysis,

edited by Michel Thera

CMS Conference Proceedings

American Mathematical Society, 2000 x + 289 pp.

The University of Limoges in France awarded an honorary degree to Jonathan Borwein in September 1999. An international Workshop on Constructive, Experimental, and Nonlinear Analysis took place prior to this event. The present volume contains twenty original and refereed papers dedicated to him. The papers are concerned with the following areas: (a) analytic and computational number theory, (b) symbolic and numerical computation,

(c) theoretical and computational optimization, and (d) non-smooth and functional analysis with applications to control theory. Researchers active in these areas present surveys on different topics of current interest. Among the authors are Bruce Brendt, Peter Borwein, Frank Deutsch, Robert Deville, John Giles, J.-B. Hiriart-Urruty, A. Ioffe, J.-P. Penot, S. Reich, Ivan Singer, L. Thibault, and van der Poorten.

Counting on Frameworks: Mathematics to Aid the Design of Rigid Structures,

by Jack Graver

Dolciani Mathematical Expositions, 25
Mathematical Association of America
2001, xii + 180 pp.

The formal name for the topic discussed in this book is rigidity theory, a body of mathematics developed to aid in designing structures. An important question regarding a scaffolding that is constructed by bolting together rods and beams is: Is it sturdy enough to hold the workers and their equipment? Any answer to this question should take into account several features of the structure. The sturdiness of the scaffolding, or any structure, depends on the way it is braced. Just to design a properly braced structure is the problem that motivates rigidity theory. The purpose of the book is to develop a mathematical model for rigidity. Three distinct models are developed and it shown ultimately that all three models agree except for very few special frameworks. The final chapter is devoted to using the models to

understand the structure of linkages, geodesic domes and tensegrity structures.

Hungarian Problem Book III, Based on the Eötvös Competitions: 1929-1943,

by Andy Liu

The Anneli Lax New Mathematical Library 42

Mathematical Association of America
2001, xviii + 142 pp.

The Eötvös Mathematics Competition is the oldest high school mathematics competition in the world, with a tradition going back to 1894. The first two Hungarian Problem books were published by MAA in 1963. Forty-five problems are presented in six chapters. They are classified into five groups: combinatorics, number theory, algebra, and geometry (in two parts). Multiple solutions to the problems are presented along with background material providing generalizations and remarks about the problems along with carefully chosen material that enhance problem solving techniques. This book will be useful to both beginners and experienced problem solvers.

USA and International Mathematical Olympiads 2000,

edited by Titu Andreescu and Zuming Feng

Mathematical Association of America
2001, xiv + 83 pp.

Olympiad-style examinations consist of several challenging essay problems. Correct solutions often require deep analysis and careful argument. Olympiad questions can seem impen-

etrable to the novice, yet most can be solved by clever application of even high school mathematics. The authors of this book were team leaders of the USA IMO team. The book presents the 2000 Olympiad problems, with a chapter on hints followed by a chapter on formal solutions. In addition to presenting their own solutions to the problems, the authors provide the solutions developed by the examination committees, contestants and experts, during or after the contests.

Mathematical Fallacies, Flaws, and Flimflam,

by Edward J. Barbeau

Mathematical Association of America
2000, xvi + 167 pp.

This interesting book is a selection from articles written by the author under the same title in the *College Mathematical Journal*. It is a collection of mathematical mistakes made by students, teachers and occasionally seasoned researchers, along with an analysis for most of them. Newspapers are responsible for a good number of these mathematical mishaps, particularly in arithmetic (especially percentages) and probability. Quite a number of the 'fallacies' come from professional mathematicians. Some are a result of simple oversight, and others are deliberately crafted by the mathematician to drive home an important point to students. Examples are classified under number theory, algebra and trigonometry, geometry, finite mathematics, probability, calculus, linear algebra and advanced undergraduate mathematics.

(PRESIDENT—continued from page 1)

The Society's thanks also go to the many session organizers — not to mention the speakers — who were responsible for the following special sessions (and 3 satellite meetings that took place on December 7th). The organizers were: Dynamics and Symmetry (Bill Langford, University of Guelph and Jianhong Wu, York University); Free Probability (Alexandru Nica, University of Waterloo); History of Mathematics (Richard O'Lander and Ronald Sklar, St. John's University, N.Y.); Industrial Mathematics (Huaxiong Huang, York Uni-

versity); Kac-Moody Lie Theory and Generalizations (Nantel Bergeron, Yun Gao, and Geanina Tudose (York University); Moonshine (Christopher Cummins, Concordia University); Nonlinear and Geometric Analysis (Robert McCann and Jochen Denzler, University of Toronto); Mathematical Education (Pat Rogers, University of Windsor, Kathy Kubota-Zarivnij and Walter Whiteley, York University); Contributed Papers (Stanley Kochman, York University).

This meeting also celebrated the varied accomplishments of five of our colleagues. The CMS **Coxeter-James Lecture** was given by Kai Behrend, University of British Columbia on

“Quantum Cohomology and the Virtual Fundamental Class or ‘how to count properly’”. The CMS **Doctoral Prize Lecture** “Limiting distributions and zeros of Artin L-functions” was given by Nathan Ng, University of Georgia. Both were exemplary models of such talks. The CMS **Adrien Pouliot Prize** for educational contributions was awarded to George Bluman, University of British Columbia while the CMS **Distinguished Service Award** was presented to James Timourian, University of Alberta. All prizes were acknowledged at the Delegates’ Luncheon as was the **G. de B. Robinson Award**, for an exceptional paper in the Canadian Mathematical Bulletin, which went to Patrick Gilmer’s article “Topological Quantum Field Theory and Strong Shift Equivalence.”

The public lecture “*and nothing else has quite the kick of mathematics*”, a quote from G.H. Hardy, was given by Katherine Heinrich (University of Regina and our recent ex-President). It focused on the history of mathematical puzzle making and was most entertaining and informative.

The Delegates’ Luncheon was held on Sunday, December 9. A ticket to this luncheon was included for each registrant. George Bluman gave a delightful brief talk as Adrien Pouliot recipient making reminiscences of thirty years in the educational trenches, and we hope to make such a presentation an annual event.

Related Events: In addition to an extended discussion of the CMS’s publishing plan for the next period (2003-2007) which Graham Wright will detail in a future *Notes*, the Executive and Board discussed three issues of concern for the long-term health of the Society, that I now touch upon.

- **Prize Nominations.**

The present nomination process for our prizes elicits many candidates from some Universities but few if any from others with very good potential nominees. We intend to construct posters to better remind the community of the nomination protocol. That said, I think it is worth emphasizing that making a nomination for one of our awards is itself an excellent way of acknowledging the contributions of one’s colleagues, whether or not the nomination is successful. Details about all the prizes and something of their history is to be found at: www.cms.math.ca/Prizes/.

- **Membership.**

The Society like many is experiencing some difficulty in attracting new members. The nature of university affiliation has changed over the last quarter century and we all have many calls on our time and finances. As the retirement of our older members accelerates, this has led us to consider how best to make apparent the value of membership especially to our newer colleagues. Thus, I would ask each of you to consider doing some recruiting in your own institution.

- **Structure of Meetings.**

The Canadian Mathematical Science community is now exceptionally diverse and vigorous, including not only CAIMS, CMS, Mitacs and the three Institutes, but now also the *Banff International Research Station* which will begin full operation in 2003. I offer my warmest congratulations to Robert Moody (BIRS Director), Nassif Ghousseub (PIMS) and David Eisenbud (MSRI and AMS President-Elect) who spear-headed this remarkable achievement.

In light of the changing ecosystem, I have asked our Committee Chairs and Executive to consider how, if at all, the structure of our semi-annual meetings might be changed. Should we offer short courses, a survey lecture series, professional development activities, and the like? I would be keen to hear opinions from members.

Executive Director: I’m very pleased to report that at the December Board Meeting, Graham Wright’s appointment as Executive Director for a further two years (July 2002 – June 2004) was approved. I want to express my own deep gratitude for all that Graham has offered to the CMS over the past 22 years. It is largely because of his extraordinary commitment to the CMS over that very long period, that the Society is in the robust shape that it is.

National Educational Forum: The CMS Board has decided to hold a national educational forum in Montreal from May 16-18, 2003 with a follow up meeting to be held roughly nine months later in Ontario. These may be viewed as continuing an activity started by the 1995 meeting in Quebec City, chaired by Kathy Heinrich. These meetings will bring together roughly 200 people from all provinces and territories representing the different groups with interest in and impact upon mathematical education in middle and high school (roughly grades 6-12). The co-organizers are Christiane Rousseau (UdeM) and George Bluman (UBC), who are building the scientific programme. The local organizing committee (chaired by Louis Charbonneau, UQAM) is starting its work and preparing a budget.

The intention is for the first meeting to function primarily as an opportunity to compare issues and best practices across the country. It should also identify those issues on which sub-groups can prepare more detailed findings to be presented at the second meeting. These findings should be published both electronically and on paper and should be distributed widely. Anyone interested in helping design the meeting or merely in participating is encouraged to contact me. It is hoped that the CMS, through these fora and the connections enhanced by them, can function more actively as a facilitator and clearing house on such educational issues. This, we expect, will be facilitated by the active participation of the three institutes.

First Canada-France Meeting: At the initiation of Michel Waldschmidt, President of the société mathématique de

France, we are now undertaking a joint four society (pure and applied) meeting in Toulouse in July of 2004. This promises to be an exciting opportunity for a primarily francophone mathematics meeting. I met in October in France with the Presidents of the two French Societies and we made good progress on the organization of the meeting.

Preliminary details will appear during the next six months in the CMS Notes and on the CMS website. It is a reflection of the growing interaction of CMS and CAIMS, that this will be the second joint CMS-CAIMS meeting of 2004, as we are also sharing the 2004 CMS Summer Meeting in Halifax.

www.cms.math.ca The Winter Meeting also marked the public launch of a revised Society website. This has two main components. First, one may choose to navigate in French www.smc.math.ca or English www.cms.math.ca. Second, the 'look and feel' has been revamped. I hope that you are as pleased as I am with the hard work done by our system Manager, Alan Kelm, and his team. While the process is not yet entirely complete — no web site ever is — comments and suggestions are always welcome.

Other Recent Activities

Taskforces: The long and productive CMS task force review has finished and I wish to thank all who participated. A complete record of recommendations may be found on the CMS website including the culminating report of Taskforce 9 (See www.cms.math.ca/Projects/1998/future.html). Most of the recommendations are now

implemented and others are close to being implemented. For example:

Advancement of Mathematics: One of the taskforce recommendations was to establish a Promotion of Mathematics Committee. This has led to the formation of a *Committee for the Advancement of Mathematics*, with fund raising now overseen by a subcommittee of this new committee. It started work at the 2001 Summer Meeting on several topics such as a continuing set of interactive posters about Mathematics, improved membership drives and fundraising forays. It also recommended replacing the Human Rights Committee by a Human Rights Officer. The recommendation was approved by the Board in December.

CMS Books and Tracts: The Society's series of *CMS Books in Mathematics* with Springer-Verlag New York, is progressing very well, and the first ten volumes are now published or at the press. There were nine titles on sale at the Winter Meeting. Sales have been good, both in North America and in Europe, and so have reviews. Reviews will, I am sure, continue to appear in these pages.

Last year, the CMS launched a parallel series of shorter books *CMS Tracts in Mathematics* to be published by the American Mathematical Society, edited by Ken Davidson and Cam Stewart. Each series hopes to publish broadly and we invite members of all Canadian mathematical science societies to consider publishing their work through these vehicles. (See www.cms.math.ca/Publications/).

DU BUREAU DU PRÉSIDENT

(see page 1 for the English version)

Comme la Réunion d'hiver 2001 vient de se terminer, je commencerai par vous en parler brièvement. J'aborderai ensuite quelques-unes des grandes activités à venir et certains dossiers qui préoccupent la SMC.

La Réunion d'hiver de la SMC : La Réunion d'hiver 2001 de la Société mathématique du Canada s'est tenue à l'hôtel Toronto Colony du 8 au 10 décembre 2001. L'hôte de la Réunion était l'Université York. Ce fut une rencontre très réussie, à la fois du point de vue intellectuel que social.

Comme pour toutes nos activités, nos Réunions reposent sur l'excellent travail d'une équipe d'organisation locale, que je remercie sincèrement au nom de la Société. Je tiens également à remercier le directeur de la Réunion, Tom Salisbury, le président du comité de logistique local, Juris Steprans, Stanley Kochman et plusieurs autres personnes du département de mathématiques hôte qui ont donné un coup de main à l'organisation. Un grand merci aussi à Monique Bouchard et au personnel du bureau administratif de la SMC. Je tiens en outre à exprimer ma gratitude envers le Comité du programme national des trois instituts de recherches canadiens

(Fields, CRM et Pims) et l'Université York pour leur généreux appui.

Conformément à la formule habituelle, nous avons au programme six conférenciers principaux, une conférence publique, cinq remises de prix avec conférences des lauréats, huit symposiums, des communications libres, de nombreuses séances de travail, des kiosques d'exposants et plusieurs activités sociales. Une séance de présentations par affiches, qui n'a malheureusement pas attiré suffisamment de participants, a été annulée.

Nous avons eu l'honneur d'accueillir les cinq conférenciers principaux suivants : Martin Golubitsky (Université de Houston) «Oscillations in coupled systems and animal gaits», John Ockendon (Université Oxford) «Simulating mathematics in industry», Arturo Pianzola (Université de l'Alberta) «Local triviality and infinite dimensional Lie algebras», David Pimm (Université de l'Alberta) «Interactions between language and mathematics: fluency, understanding and time», Richard Schoen (Université Stanford) «Constructing calibrated submanifolds» et Dan Voiculescu (Université de la Californie à Berkeley) «Free entropy». Les conférences

auxquelles j'ai pu assister était excellentes, tant par leur forme que leur contenu.

La Société tient aussi à remercier les nombreux organisateurs responsables des séances spéciales suivantes (et des trois rencontres connexes tenues le 7 décembre) : Dynamique et symétrie (Bill Langford, Université de Guelph, et Jianhong Wu, Université York); Probabilités libres (Alexandru Nica, Université de Waterloo); Histoire des mathématiques (Richard O'Lander et Ronald Sklar, Université St. John's, N.Y.); Mathématiques industrielles (Huaxiong Huang, Université York); Théorie de Lie de Kac-Moody et ses généralisations (Nantel Bergeron, Yun Gao et Geanina Tudose, Université York); Moonshine (Christopher Cummins, Université Concordia); Analyse non linéaire et géométrie (Robert McCann et Jochen Denzler, Université de Toronto); Enseignement des mathématiques (Pat Rogers, Université de Windsor, Kathy Kubota-Zarivnij et Walter Whiteley, Université York); Communications libres (Stanley Kochman, Université York).

À l'occasion de cette Réunion, nous avons également souligné les réalisations de cinq de nos collègues. Kai Behrend, de l'Université de la Colombie-Britannique, a prononcé la **conférence Coxeter-James** de la SMC, qu'il a intitulée « Quantum Cohomology and the Virtual Fundamental Class or 'how to count properly »; Nathan Ng, de l'Université de la Georgie a donné la **conférence du Prix de doctorat**, intitulée « Limiting distributions and zeros of Artin L-functions », et George Bluman, de l'Université de la Colombie-Britannique, a prononcé la **conférence Adrien-Pouliot**. On a aussi remis le **Prix de la SMC pour service méritoire** à James Timourian, de l'Université de l'Alberta. Tous les prix ont été remis au lunch des participants, et le lauréat du **prix G. de B. Robinson**, Patrick Gilmer, qui souligne un article exceptionnel paru dans le Bulletin canadien de mathématiques (1999-2000), y a également été annoncé. L'article choisi s'intitulait : « Topological Quantum Field Theory and Strong Shift Equivalence ».

C'est Kathy Heinrich (Université de Regina - ex-présidente) qui a donné la conférence publique, intitulée « *And nothing else has quite the kick of mathematics* », d'après une citation de G.H. Hardy. L'exposé, sur l'histoire de la fabrication de casse-têtes mathématiques, était extrêmement divertissant et intéressant.

Le lunch des participants a eu lieu le dimanche 9 décembre. Un billet pour ce repas était compris dans l'inscription de tous les participants. George Bluman a fait une courte mais superbe présentation, à titre de lauréat du prix Adrien-Pouliot, sur ses trente années de travail en enseignement. Nous espérons faire de ce genre de présentation une activité annuelle.

Autres activités : En plus de discuter en long et en large du plan de publication de la SMC pour la prochaine période (2003-2007) - sujet qu'abordera Graham Wright en détail dans un prochain numéro des *Notes* - le conseil

d'administration s'est penché sur trois dossiers ayant des répercussions à long terme sur la prospérité de la Société. Permettez-moi de vous en glisser quelques mots.

- **Mises en candidature** Le processus actuel de mise en candidature amène de nombreux candidats de quelques universités, mais très peu, et dans certains cas, pas du tout, d'autres établissements qui auraient pourtant des candidats très intéressants. Nous avons l'intention de concevoir des affiches visant à rappeler à la communauté mathématique quel est le processus de mise en candidature. Cela dit, il est important de préciser que le seul fait de proposer un candidat à l'un de nos prix est, en soi, une excellente manière de souligner les réalisations d'un collègue, qu'il remporte le prix ou non. Pour plus de détails sur les prix et leur histoire, rendez-vous au : www.cms.math.ca/prix/.
- **Adhésions** À l'instar d'autres associations, la Société éprouve de la difficulté à attirer de nouveaux membres. La nature de l'affiliation à une université a changé depuis 25 ans, et les contraintes temporelles comme financières nous touchent tous. Comme plusieurs de nos membres âgés approchent de la retraite, nous devons nous demander quelle serait la meilleure façon de faire ressortir la valeur de l'adhésion à la SMC pour nos jeunes collègues. Voilà pourquoi je vous demanderais à tous de songer à faire du recrutement dans votre établissement.
- **Structure des Réunions** En ce moment, la communauté mathématique canadienne est exceptionnellement diversifiée et vigoureuse. Elle regroupe non seulement la SCMAI, la SMC, le réseau Mitacs et les trois instituts, mais aussi la *Station de recherche internationale de Banff - SRIB*, qui ouvrira officiellement ses portes en 2003. Toutes mes félicitations à Robert Moody (Directeur de la SRIB), à Nassif Ghoussoub (Institut du Pacifique pour les sciences mathématiques) et à David Eisenbud (MSRI et président élu de l'AMS), qui sont à l'origine de cette remarquable réussite.

À la lumière de tous ces changements, j'ai demandé aux présidents de comités et au comité exécutif de la SMC d'amorcer la réflexion sur la possibilité de modifier la formule de nos Réunions semestrielles. Devrions-nous offrir des mini-cours, des séries de conférences, des activités de perfectionnement, etc.? J'aimerais bien connaître l'avis de nos membres à ce sujet.

Directeur administratif : Je suis très heureux de vous annoncer qu'à sa réunion de décembre, le conseil d'administration a reconduit le mandat de Graham Wright au poste de directeur administratif pour deux autres années (juillet 2002 - juin 2004). Je tiens à exprimer personnellement toute ma

gratitude à Graham pour tout ce qu'il a donné à la SMC depuis 22 ans. C'est en grande partie grâce à son dévouement extraordinaire pendant une si longue période que la Société est devenue l'association forte que l'on connaît.

Forum national sur l'enseignement : Le CA de la SMC a décidé d'organiser un forum national sur l'enseignement des mathématiques à Montréal du 16 au 18 mai, 2003, avec réunion de suivi à peu près neuf mois plus tard en Ontario. Ces rencontres se veulent le prolongement d'un premier forum tenu à Québec en 1995, sous la présidence de Kathy Heinrich. Elles réuniront quelque 200 personnes de toutes les provinces et de tous les territoires représentant des groupes qui s'intéressent à l'enseignement des mathématiques et à ses répercussions, au niveau des écoles intermédiaires et secondaires (environ de la sixième à la douzième année). Les organisateurs, Chistine Rousseau (U de M) et George Bluman (UBC), sont à définir le programme scientifique. Le comité de logistique local (sous la gouverne de Louis Charbonneau, UQAM) a aussi commencé ses travaux et l'établissement de son budget.

On souhaite que la première rencontre serve principalement à comparer les problèmes et les pratiques exemplaires de chacune des instances, ainsi qu'à cerner les sujets sur lesquels les sous-groupes pourront se pencher davantage à la seconde rencontre. On aimerait que les résultats de ces rencontres soient publiés sur le Web et sur papier, et qu'ils soient diffusés à grande échelle. Toute personne intéressée à participer à l'organisation de cette réunion est priée de communiquer avec moi. La SMC espère que ces forums et les liens qui s'y seront établis et renforcés lui permettront de jouer un rôle plus actif à titre d'intervenant et d'organisme central pour les questions relatives à l'enseignement des mathématiques. Nous comptons grandement sur la participation active des trois instituts.

Première rencontre Canada-France : D'après une idée de Michel Waldschmidt, président de la Société Mathématique de France, nous avons entrepris l'organisation d'un congrès conjoint réunissant quatre sociétés (mathématiques pures et appliquées) qui aura lieu à Toulouse en juillet 2004. On s'attend à une excellente rencontre mathématique, qui se déroulera surtout en français. En octobre, je me suis rendu en France où j'ai rencontré les présidents des deux sociétés françaises. Nous avons faits de grands progrès dans l'organisation du congrès.

Les premiers renseignements paraîtront au cours des six prochains mois dans les Notes de la SMC et sur le site Web de la SMC. Ce congrès témoigne des rapprochements de plus en plus nombreux entre la SMC et la SCMAI, puisqu'il s'agira de la deuxième rencontre SMC-SCMAI de 2004. En effet, la Réunion d'été de la SMC, qui se tiendra à Halifax, se fera

aussi en collaboration avec la SCMAI.

www.smc.math.ca La Réunion d'hiver a aussi marqué le lancement public du nouveau site Web de la Société. Le nouveau site se divise maintenant en deux : une partie française www.smc.math.ca et une partie anglaise www.cms.math.ca. De plus, on a revu la présentation du site. J'espère que vous êtes aussi satisfaits que moi du travail réalisé par notre gestionnaire de système, Alan Kelm, et son équipe. Le nouveau site n'est pas entièrement «fini» (aucun site ne l'est vraiment), mais nous sommes toujours ouverts à vos commentaires.

Autres activités récentes

Groupes de travail : Le long, mais productif examen de nos activités est maintenant terminé, et j'aimerais remercier toutes les personnes qui y ont participé. Pour consulter l'ensemble des recommandations, y compris le rapport du groupe de travail no 9, rendez-vous sur le site Web de la SMC (www.cms.math.ca/Projects/1998/future.html). Bon nombre des recommandations qui s'y trouvent ont déjà été mises en oeuvre, et d'autres sont en voie de l'être. Par exemple :

Avancement des mathématiques : Suite à la recommandation d'un de nos groupes de travail, le *Comité pour l'avancement des mathématiques* vient de voir le jour. C'est à un sous-comité de ce nouveau comité que revient la recherche de financement. Les membres du Comité se sont mis au travail à la dernière Réunion d'été; ils travaillent notamment à la conception d'une série d'affiches sur les mathématiques et à l'amélioration des campagnes de recrutement et des avenues de financement. Le Comité a aussi recommandé de remplacer le Comité des droits de la personne par un agent des droits de la personne, recommandation approuvée par le CA en décembre dernier.

Ouvrages et traités de la SMC : La collection *Ouvrages de mathématiques de la SMC*, publiée chez Springer-Verlag (New York), progresse très bien. Les dix premiers volumes sont déjà publiés ou en cours d'impression. Neuf titres étaient en vente à la Réunion d'hiver. À ce jour, les ventes et les critiques sont bonnes en Amérique du Nord et en Europe. On continuera certainement de lire des critiques de ces ouvrages dans les Notes.

L'an dernier, la SMC a lancé une collection parallèle d'ouvrages plus courts, les *Traité de mathématiques de la SMC*, qui seront publiés par l'American Mathematical Society, sous la direction de Ken Davidson et de Cam Stewart. Ces deux collections voient grand, et nous devrions inviter les membres d'autres sociétés mathématiques canadiennes à y publier leurs travaux. (Voir www.cms.math.ca/Publications/).

The CMS in Cuba

by David Brillinger, University of California – Berkeley



Dr. Mauro Garcia (r) and David Brillinger.

The Latin American Congress on Probability and Mathematical Statistics (CLAPEM) took place in Havana, Cuba this past November 12 to 16. During the congress David Brillinger presented the following message of greeting from the CMS President Jon Borwein to Dr. Mauro Garcia, the President of the Cuban Society of Mathematics and Computation:

“I am delighted to send my greetings, and express my hope as CMS President that the meetings are both intellectually and individually rewarding. The Canadian Mathematical Society

would indeed welcome opportunities for better contact with the Cuban Society of Mathematics and Computation.”

The Cubans indeed welcomed opportunities for better contact with the CMS. Already some of their students are studying in Canada, for example at Concordia. Various individuals mentioned the need for books and journals and access to journals that are online.

I was impressed by how well trained the mathematics and statistics students that I met were, by the grand courtyard of the building of the Faculty of Mathematics and Computations and by the availability of email and internet facilities.

CLAPEM meets approximately every three years and this was its first meeting in Cuba. There were approximately 200 participants coming from 19 different countries. There were sessions on Statistical Methods, Biostatistics, Finance, Data Analysis and Optimization, Probability, and Processes. The talks were in either English or Spanish. Among the sponsors of the meeting were the International Mathematical Union (IMU) and the Centre de Mathématiques Pures et Appliquées (CIMPA).

Just now Cuba seems to be evolving like China: socialist government with some private enterprise accepted.

Report on Chairs Meetings

by George Bluman, University of British Columbia

Since 1997, I have served as chair of the UBC Mathematics Department. In this capacity I attended Chairs' Luncheons at CMS Summer and Winter meetings. At such luncheons little was accomplished and only a minority of chairs attended. During the 1998 Summer meeting at Memorial it was suggested that there be an annual meeting for chairs of Canadian mathematics departments. For ease of travel it was decided that such a meeting could only be held in Montreal or Toronto. CRM graciously agreed to host the first meeting at the Université de Montréal.

A model and impetus for such a meeting was the annual US colloquium for chairs of college and university mathematics and statistics departments held by the Board on Mathematical Sciences of the National Research Council for two days in November in Washington, DC. The US meeting provides an "opportunity for department chairs to share experiences and ideas for addressing stresses that affect many departments." I first attended this meeting in November 1997 and found it to be most useful. It had a carefully laid out agenda with well-prepared presentations. Most valuable were the opportunities to share experiences and build contacts. Around 200-300 US chairs attend this meeting each year with invited presentations

from about 15-20 chairs.

Herb Gaskill (Memorial) and I co-organised the first two meetings; Tom Salisbury (York) joined us as a co-organiser for the third meeting.

The first meeting was held on November 20-21, 1999 at Montreal. It was attended by 24 chairs from Memorial, Acadia, Dalhousie, UNB (Fredericton), Bishop's, Concordia, Laval, McGill, Montreal, Sherbrooke, Brock, McMaster, Ottawa, Queen's, Toronto, Western Ontario (Pure Math), York, Manitoba, Winnipeg, Regina, Saskatchewan, Alberta, SFU and UBC. We started the tradition of having three different departments making overview presentations. These were given by Jean-Pierre Carmichael (Laval), Richard Nowakowski (Dalhousie) and George Bluman (UBC). The rest of each meeting has focussed on pre-arranged sessions of interest with invited presentations. The speakers at each session essentially act as facilitators by throwing out ideas to stimulate discussion. Each meeting has had a reception sponsored by CMS and a set dinner. In Montreal, the sessions included:

- How to attract more students to Mathematics: Kohur GowriSankaran (McGill), Tom Archibald (Acadia), James

Currie (Winnipeg)

- Outreach to schools: Grant Woods (Manitoba), Herb Gaskill (Memorial)
- Reports from Institutes/MITACS: Jacques Hurtubise (CRM), Donald Dawson (Fields), Edwin Perkins (PIMS), Arvind Gupta (MITACS)
- Data and resources: Herb Gaskill, Robert Woodrow (Calgary), Eddy Campbell (Queen's)
- Recruitment of graduate students: Kohur GowriSankaran, Akbar Rhemtulla (Alberta), John Bland (Toronto), Francois Lalonde (UQAM)
- CMS activities: Richard Kane (President of CMS), Graham Wright

The second meeting was held on November 18-19, 2000 at the Fields Institute in Toronto. It was attended by 23 chairs from Memorial, Acadia, Dalhousie, Laval, McGill, Sherbrooke, Brock, Guelph, Queen's, Toronto, Waterloo (Pure Math), Western Ontario (Applied Math), Wilfrid Laurier, Windsor, York, Manitoba, Regina, Saskatchewan, Alberta, Calgary, SFU and UBC. A report on this meeting appeared in CMS Notes, February 2001. The departmental presentations were given by Akbar Rhemtulla (Alberta), Herb Gaskill (Memorial) and Robert Erdahl (Queen's). The sessions included:

- Research support and encouragement for faculty: Kohur GowriSankaran (McGill), Paul Sullivan (Western)
- How to maximise the hiring of mathematicians to CRCs: Akbar Rhemtulla, Tom Salisbury (York), Robert Erdahl
- Experiences with uses of computer technology in courses: Tom Archibald (Acadia), Richard Nowakowski (Dalhousie), Mik Bickis (Saskatchewan)
- Recruitment of female faculty: George Bluman (UBC)
- Co-op programs in Math: Ejaz Ahmed (Regina), Brian Allen (Guelph), Brian Forrest (Waterloo)
- Preparation of teachers: Len Berggren (SFU), Jean-Pierre Carmichael (Laval), Brian Forrest
- How to deal with teaching difficulties: George Bluman, Herb Gaskill
- CMS initiatives and relationships: Tom Salisbury, Graham Wright
- Reports from Institutes/MITACS: Nassif Ghoussoub (PIMS), Bradd Hart (Fields), Jacques Hurtubise (CRM), Arvind Gupta (MITACS)

The third meeting was held on September 21-23, 2001 at the University of Ottawa. The date was chosen so that we could meet with the Mathematics Reallocation Steering Committee. The meeting was attended by 24 chairs from Memorial, Dalhousie, UNB (St. John), Concordia, McGill, Montréal, Carleton, Guelph, Lakehead, McMaster, Queen's, Toronto, Waterloo (Pure Math), Western Ontario (Pure Math), Wilfrid Laurier, Windsor, York, Manitoba, Regina, Saskatchewan, Alberta, Calgary, SFU and UBC. Representatives of the reallocations committee met twice

with the chairs, to solicit input and report on progress to-date. The departmental presentations were given by Kohur GowriSankaran (McGill), Grant Woods (Manitoba) and John Bland (Toronto). The sessions included:

- CRC allocations to Mathematics: Ted Bisztriczky (Calgary), Tom Salisbury (York)
- Chairs discussion of reallocation issues: Richard Nowakowski (Dalhousie), Hershy Kisilevsky (Concordia)-chairs who are on the Reallocation Committee. Richard Kane (Chair of the Mathematical Reallocation Committee) attended a part of this session.
- Information session on the Banff International Research Station (BIRS): Robert Moody (Scientific Director of BIRS), Nassif Ghoussoub (PIMS).
- Reports from Institutes/MITACS: Ken Davidson (Fields), Nassif Ghoussoub, Jacques Hurtubise (CRM), Arvind Gupta (MITACS)
- Report from CMS: Tom Salisbury, Graham Wright
- Crossing departmental barriers (joint hiring, joint programs): Robert Erdahl (Queen's), Erhard Neher (Ottawa), George Bluman (UBC)
- Faculty workloads: Alistair Lachlan (SFU), Merzik Kamel (UNB, St. John), Mik Bickis (Saskatchewan)
- Retention and recruitment of faculty: Ejaz Ahmed (Regina), Brian Forrest (Waterloo), Herb Gaskill (Memorial)
- Meeting with full Mathematics Reallocation Committee: Richard Kane
- Evaluating merit for research/teaching/service: Brian Allen (Guelph), George Bluman
- Teacher preparation and certification: Matt Valeriote (McMaster), David Vaughan (Wilfrid Laurier), Tom Salisbury- This topic led to a lot of discussion with a general consensus that there is a need to consider "certification" or "endorsement" in Mathematics for those teaching at the high school or middle school level. David Vaughan brought to our attention US data that showed a significant positive correlation in student Math performance at the Grade 10 level with teachers of Math having degrees in Math (with even a significantly more positive correlation for teachers with Masters in Math). See <http://nces.ed.gov/pubs97/975351.pdf> and http://books.nap.edu/html/educating_teachers/.

The fourth meeting will be held at the Fields Institute, October 5-6, 2002. It will be hosted by the University of Toronto and co-organisers will be Robert Erdahl, Herb Gaskill and Tom Salisbury. Robert Moody invited the chairs to BIRS for the 2003 meeting. The topics for the 2002 meeting will be selected from:

- staff and staff responsibilities
- encouraging faculty to undertake service
- benefits and remuneration for chairs!
- role of CMS meetings, post BIRS
- sessional instructors
- preparation of graduate students for teaching

- mathematics help centres
 - funding of graduate students
 - mathematics for Computer Science students
 - teaching loads
 - tenure and promotion procedures
 - high school curriculum and university entrance requirements
 - web-based courses
 - CRC update
 - follow-up on teacher certification
 - impact of the Ontario double cohort in 2003
- Overall, these meetings have accomplished a lot. There

has developed a frank and free ranging exchange of ideas/opinions with all participating (unlike the situation for US meetings that are dominated by the few invited speakers). We all have learned from each other and I am sure that most of us have encouraged and implemented changes in our respective departments that result from these annual meetings. The attendance has remained consistently high. In particular the fraction of attending chairs is far larger than at US meetings. The Canadian mathematics community is strengthened from our chairs' meetings. Now the physicists and statisticians are following our lead.

CALL FOR SESSIONS / APPEL AUX COMMUNICATIONS

Additional self-supported sessions play an important role in the success of the Society's semi-annual meetings. The CMS welcomes and invites proposals for self-supported sessions for **Summer 2003 (University of Alberta, Edmonton, Alberta)**.

Proposals should include a brief description of the focus and purpose of the session, the number and expected length of the talks, as well as the organizer's name, complete address, telephone number, e-mail address, etc.

These additional sessions will be incorporated with the other sessions, time blocks allocated by the Meeting Director and advertised in the *CMS Notes*, on *Camel* and, if possible, in the *Notices of the AMS* and in publications of other societies. Speakers in these additional sessions will be requested to submit abstracts which will be published in the meeting programme.

The following provides information on the sessions confirmed to date.

Those wishing to organize a session should send a proposal to the Meeting Director by the deadline below.

Deadline: April 15, 2002 / Date limite : le 15 avril 2002

Conformal Field Theory / Théorie des champs conformes

Terry Gannon (Alberta) and / et Mark Walton (Lethbridge)

Brouwer Groups / Groupes de Brouwer

Mazi Shirvani (Alberta)

Computational and Analytical Techniques in Modern Applications / Techniques numériques et analytiques dans les applications modernes

Peter Minev (Alberta) and / et Tony Ware (Calgary)

Infinite Dimensional Dynamical Systems / Systèmes dynamiques en dimensions infinies

XiaoQiang Zhao (Memorial) and / et Thomas Hillen (Alberta)

Applied Harmonic Analysis / Analyse harmonique ap-

pliquée RongQing Jia (Alberta) and / et Bin Han (Alberta)

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Ted Lewis (Alberta)

YanPing Lin, Meeting Director / Directeur de la réunion

Department of Mathematical and Statistical Sciences

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University of Alberta

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Tel: (780) 492-7880 Fax: (780) 492-6826

e-mail: ylin@math.ualberta.ca

AARMS SUMMER SCHOOL 2002

The Atlantic Association for Research in the Mathematical Sciences (AARMS) is proud to announce that its first annual summer school will take place at Memorial University of Newfoundland, St. John's, Newfoundland, from July 22 through August 16, 2002. The School, which will offer four courses in the mathematical sciences and their applications, is intended for graduate students and promising undergraduate students from all parts of the world.

Each participant will be expected to register for two courses. Each course will consist of four one-hour lectures and two ninety-minute problem sessions per week. At the conclusion, grades will be given. With 28 contact hours over the duration, what we offer will come close to a typical graduate course at a North American University, so it is our hope that most institutions sending students will award credit for courses taken in the AARMS Summer School.

For the first year, the following courses are being planned:

- Algebra, with Professor Cesar Polcino Milies from the University of Sao Paulo, Brazil
- Fractal Geometry, with Professor Kathryn Hare from the University of Waterloo, Ontario
- Graph Theory, with Chris Rodger of Auburn University, Alabama
- Numerical Analysis (Professor to be confirmed).

While funds to reimburse students for the costs of travel to St. John's will be limited, the School will cover local expenses (accommodation and a meal allowance) and provide text books.

For more information and to express interest in attending, visit the School's web site—<http://www.math.mun.ca/aarms/SS2002> or email Edgar Goodaire (edgar@math.mun.ca) directly.

CARLETON UNIVERSITY - OTTAWA, ONTARIO SCHOOL OF MATHEMATICS AND STATISTICS

Due to recent retirements, the School of Mathematics and Statistics is rebuilding its faculty complement and invites applications for one or more tenure-track positions at the rank of Assistant Professor and possibly higher to begin July 1, 2002. Applicants should have a Ph.D. in mathematical or statistical sciences, a demonstrated potential for research and a strong commitment to excellence in teaching. Priority will be given to candidates who can support the growth in the "Access for Opportunities" programs of the School and the University (for more information see <http://www.math.carleton.ca>). Candidates who are actively engaged in research in algebra, cryptography, statistics (particularly applied statistics and bioinformatics/biostatistics) are encouraged to apply. Outstanding candidates in other areas will be seriously considered. These positions are subject to budgetary approval. Applications, including a curriculum vitae and three letters of reference, should be sent to:

Dr. C. W. L. Garner, Director
School of Mathematics and Statistics
Carleton University
1125 Colonel By Drive, 4328 HP
Ottawa, Ontario K1S 5B6
Fax: (613) 520-3536

The deadline for applications was **December 15, 2001** but late applications may be considered until all positions are filled. All qualified candidates are encouraged to apply; however, Canadians and Permanent Residents will be given priority. Carleton University is committed to equality of employment for women, aboriginal peoples, visible minorities and persons with disabilities. Persons from these groups are encouraged to apply. Any inquiries about the application should be sent to cryan@math.carleton.ca

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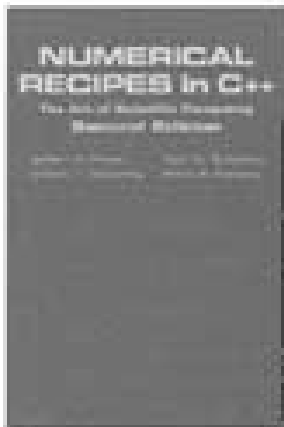
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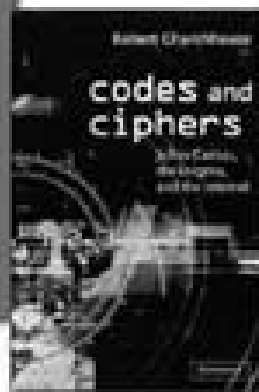
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CMS Summer Meeting 2002

Université Laval
Quebec City, Quebec
June 15-17, 2002

First Announcement

On behalf of Laval University, the Department of Mathematics and Statistics invites all researchers, educators and students to the Summer 2002 Meeting of the Canadian Mathematical Society (CMS).

Following the usual format, the meeting will include fourteen symposia, contributed papers, five plenary speakers, as well as the Jeffery-Williams and Krieger-Nelson lecturers and a public lecture presented by Jean-Marie De Koninck.

Laval University is also very pleased to announce that, during the meeting, Professor Robert P. Langlands (IAS) will receive a *honoris causa* doctorate.

All pre-meeting activities and scientific talks will be held at Pavillon Alphonse-Desjardins and Pavillon Alexandre-Vachon, home of Laval's Faculty of Science and Engineering.

The most up-to-date information concerning the programmes, including scheduling, will be made available at the following world wide web address:

<http://www.cms.math.ca/Events/summer02>

Meeting registration forms and hotel accommodation forms are published in the February 2002 issue of the *CMS Notes* and are also available on the website, along with on-line forms for registration and submission of abstracts.

Public Lecture

Jean-Marie De Koninck (Laval University)

Plenary Speakers

David W. Henderson (Cornell University)

Nikolai Nikolski (University of Bordeaux 1, Steklov Inst.)

Christophe Reutenauer (Université du Québec à Montréal)

Paul D. Seymour (Princeton University)

Isadore M. Singer (MIT)

Prizes and Awards

The CMS Jeffery-Williams Lecture will be given by Edwin Perkins, University of British Columbia.

The CMS Krieger-Nelson Lecture will be given by Priscilla Greenwood, University of British Columbia, Arizona State University.

Honorary Degree

Laval University is very pleased to announce that Robert P. Langlands (IAS) will receive a *honoris causa* doctorate. The presentation will be made during the course of the conference.

Symposia

By invitation of the Meeting Committee, there will be symposia in the following areas. Here is the preliminary list of speakers. If you are interested in being an invited speaker in one of the symposia, it may be possible to do so by contacting one of the organizers of that symposium.

(t) indicates tentative

Analysis

(Org: T. Ransford, Laval University)

L. Baribeau (Laval), A. Boivin (Western)(t), T. Bloom (Toronto)(t), A. Brudnyi (Calgary), Y. Chen (Lakehead), B. Cole (Brown)(t), D. Coman (Syracuse)(t), G. Dafni (Concordia), R. Fournier (Montreal), A. Fraser (Dalhousie)(t), P. Gauthier (Montreal), F. Larusson (Western)(t), N. Levenberg (Syracuse)(t), J. Mashreghi (Laval), E. Poletsky (Syracuse), D. Rochon (UQTR)(t), J. Rostand (CRD, Ottawa), Z. Slodkowski (Illinois-Chicago), P. Vitse (Bordeaux/Laval), J. Werner (Brown).

Arithmetic Algebraic Geometry

(Org: Kumar Murty and P. Sastry, University of Toronto)

D. Arapura (Purdue), N. Boston (Illinois-Urbana), B. Conrad (Michigan)(t), H. Darmon (McGill), E. Goren (McGill), H. Kisilevsky (Concordia), J. Lewis (Alberta), R. Murty (Queen's), R. Takloo-Bighash (Princeton), Y. Zarhin (Penn State).

Associative Algebras

(Org: I Assem, University of Sherbrooke, and F. Huard, Bishop's University)

I. Assem (Sherbrooke), J. Bilodeau (Toronto), R.-O. Buchweitz (Toronto)(t), J.C. Bustamante (Sherbrooke)(t), F. Huard (Bishop's), M. Kleiner (Syracuse), M. Lanzilotta (Republica, Uruguay), J. Lévesque (Sherbrooke), S. Liu (Sherbrooke)(t), A. Martsinkovsky (Northeastern), R. Raphael (Concordia)(t), D. Zacharia (Syracuse)(t).

Category Theory

(Org: R. Paré, Dalhousie University)

M. Barr (McGill), R. Blute (Ottawa), M. Bunge (McGill), R. Cockett (Calgary), R. Dawson (Saint Mary's), J. Duskin (SUNY-Buffalo), P. Freyd (Pennsylvania), D. Garraway (Colby), A. Joyal (UQAM), F. Linton (Wesleyan), W. MacCaull (St Francis Xavier), J. MacDonald (British Columbia), M. Makkai (McGill), S. Niefield (Union), R. Paré (Dalhousie), D. Pronk (Dalhousie), R. Rosebrugh (Mount Allison), P. Scott (Ottawa), R. Seely (McGill), J. Wick Pelletier (York), R. Wood (Dalhousie).

Combinatorics

(Org: **C. Chauvre**, UQAM, **S. Corteel**, CNRS and UQAM, and **P. Leroux**, UQAM)

F. Bergeron (UQAM), M. Bousquet (UQAM), M. Bousquet-Melou (UQAM/Bordeaux), I. Gessel (Waltham), I. Goulden (Waterloo), A. Goupil (UQAM), G. Labelle (UQAM), P. Lalonde (UQAM), V. Liskovets (Minsk), J. Morse (Penn State), I. Pak (Boston), J. Propp (Wisconsin)(t), F. Ruskey (Victoria), C. Savage (North Carolina), G. Schaeffer (Nancy), R. Stanley (MIT), J.-Y. Thibon (Paris), B. van Rensburg (Toronto), X. Viennot (Bordeaux), T.R. Walsh (UQAM), J. West (Victoria), C. Yan (College Station), D. Zeilberger (Princeton), J. Zeng (Lyon).

Cryptography

(Org: **D. Stinson**, University of Waterloo, and **H. Williams**, University of Calgary)

M. Bauer (Waterloo), D. Bernstein (Illinois-Chicago), I. Blake (Toronto), D. Brown (Certicom), P. D'Arco (Waterloo), G. Gong (Waterloo), S. Hamdy (Calgary), A. Hasan (Waterloo), M. Jacobson (Manitoba), R. LaFlamme (Waterloo), S. Magliveras (Florida Atl.), R. Mollin (Calgary), K. Murty (Toronto), N. Pippenger (UBC), R. Scheidler (Calgary), A. Silverberg (Ohio State), A. Stein (Illinois-Urbana), S. Tavares (Queen's), E. Teske (Waterloo), G. Walsh (Ottawa), R. Wei (Lakehead).

Differential Geometry

(Org: **J. Chen**, University of British Columbia)

C. Arezzo (Università di Parma), J. Bryan (UBC), X. Chen (Princeton), A. Fraser (Brown), X. Liu (Notre Dame), P. Lu (McMaster), Z. Lu (California-Irvine), D. Matessi (Montréal), W. Minicozzi (Johns Hopkins)(t), M. Minoo (McMaster), G. Tian (MIT)(t), J. Vialovsky (MIT), J. Wang (Minnesota), M. Wang (McMaster), R. Wentworth (Johns Hopkins).

Dynamical Systems

(Org: **Michael Radin**, RIT)

B. Brooks (RIT), S.A. Campbell (Waterloo), M.G. Cojocaru (Queen's), B. Dionne (Ottawa) (t), C. Kent (VCU), W. Kosmala (ASU), V. LeBlanc (Ottawa), S. Maggelakis (RIT), A. Novruzic (UBC), M.A. Radin (RIT), H. Sedaghat (VCU), C. Stoica (Victoria).

Graph Theory

(Org: **B. Alspach**, University of Regina)

P. Balister (Memphis)(t), E. Dobson (Mississippi State), L. Goddyn (Simon Fraser), P. Hell (Simon Fraser), J. Janssen (Dalhousie)(t), D. Marusic (Ljubljana), M. Muzychuk (Netanya)(t), M. Sajna (Regina), M. Schultz (UNLV), D. Witte (Oklahoma State), X. Yu (Georgia Tech), C.-Q. Zhang (West Virginia).

Mathematical Education

The teaching and learning of geometry: why, what, how.

(Org: **F. Gourdeau** and **B.R. Hodgson**, Laval University)

J. Baracs (Montréal), D. W. Henderson (Cornell), M. Sinclair (York), W. Whiteley (York).

Those interested in contributing to the Mathematical Education session are invited to contact F. Gourdeau (fredg@mat.ulaval.ca) or B.R. Hodgson (bhodgson@mat.ulaval.ca).

Mathematics of Finance

(Org: **Hassan Manouzi**, Laval University)

Those interested in contributing to the Mathematics of Finance session are invited to contact H. Manouzi (hm@mat.ulaval.ca).

Number Theory

(Org: **A. Akbary** and **O. Kihel**, University of Lethbridge)

E. Benjamin (Maine)(t), D. Bradley (Maine-Orono), S. Choi (Simon Fraser), A. Cojocaru (Queen's), C. Cummins (Concordia), C. Cunningham (Calgary), H. Darmon (McGill), C. David (Concordia), L. Davison (Laurentian), J.-M. De Koninck (Laval), S. El Morchid (Casablanca)(t), E. Goren (McGill), J.G. Huard (Canisius C.), C. Ingalls (New Brunswick), R. Mollin (Calgary), R. Murty (Queen's), A. Ozluk (Maine), D. Roy (Ottawa), A. Sebbar (Ottawa), C. Stewart (Waterloo), F. Thaine (Concordia), G. Walsh (Ottawa).

Probability Theory

(Org: **D. Dawson**, Carleton University and **G. Slade**, University of British Columbia)

M. Barlow (UBC), T. Cox (Syracuse), D. Dawson (Carleton/McGill), R. Durrett (Cornell), W. Hong (Carleton), N. Madras (York), C. Mueller (Rochester), J. Quastel (Toronto), A. Sakai (UBC), G. Slade (UBC), J. Walsh (UBC), X. Zhou (Concordia).

Universal Algebra

(Org: **J. Hyndman** and **S. Wismath**, University of Lethbridge)

C. Bergman (Iowa State), G. Gratzner (Manitoba), L. Haddad (RMCC)(t), B. Larose (Concordia), G. McNulty (South Carolina)(t), JB Nation (Hawaii), B. Sands (Calgary), M. Valeriote (McMaster), R. Willard (Waterloo)(t), Ji Young (Iowa State).

Contributed Papers Session
(Org: **N. Lacroix** and **C. Levesque**,
Laval University)

Contributed papers of 15 minutes duration are solicited. In order to provide a broader audience, there will be parallel sessions of and only of contributed papers: (no lecture in the 13 other sessions). Abstracts for CMS contributed papers should be prepared as specified below.

For an abstract to be eligible, the abstract must be received before **May 15, 2002**. The abstract must be accompanied by its contributor's registration form and payment of the appropriate fees.

Travel Grants for Graduate Students

Limited funds are available to partially fund the travel and accommodation costs for graduate students. For more information, please contact the Meeting Committee at gradtravel-summer02@cms.math.ca.

Applicants must be bona fide graduate students, at a Canadian or other University. To apply for this funding, please have a letter written by your Supervisor or departmental Graduate Advisor, briefly answering the following: Name of Student, Area of study and level, How will the student benefit from the meeting? Will the student be speaking? What support is available from local sources or grants, for this student?

Please have this sent before **May 1, 2002**. This letter may be emailed to gradtravel-summer02@cms.math.ca. **Applicants will be notified early in May** of the funding decision.

If successful, the student will receive a cheque for reimbursement of expenses upon completion and submission of the standard Travel Expense Claim Form, along with appropriate original receipts.

Social Events

A **welcoming reception** will be held Friday, June 14, from 7:00 to 9:00 p.m. in lobby of Pavillon Alphonse-Desjardins of Laval University.

The **Delegates' Luncheon** will be held on Saturday, June 15, from 12:00 to 2:00 p.m. at Pavillon Alphonse-Desjardins of Laval University. A ticket to this luncheon is included in all registration fee categories.

A **banquet** will be held on Sunday, June 16, from 7:30 p.m. at the Musée du Québec, Parc des Champs-de-Bataille, preceded by a cash bar at 6:30 p.m. in le Grand hall. Tickets to this event are available at \$50.00 each.

Coffee and juice will be available during the scheduled breaks.

Business Meetings

The CMS will be holding business meetings during the course of the meeting. Additional information will be provided in

later announcements and may be found on the Society's website.

The **CMS Executive Committee Meeting** will meet on Thursday, June 13, from 6:00 to 10:00 p.m. at Laval University (room to be announced).

The **CMS Development Group Luncheon** will be held from 11:00 a.m. to 1:00 p.m. on Friday, June 14 at Laval University (room to be announced).

The **CMS Board of Directors Meeting** will be held from 1:30 to 6:30 p.m. on Friday, June 14 at Laval University (room to be announced).

The **CMS Annual General Meeting** is scheduled from 12:00 to 1:30 p.m., Sunday, June 16 at Laval University. Lunch will be provided. All CMS members are invited to attend.

Exhibits

Exhibits will be open during specified hours during the conference.

Submission of Abstracts

Abstracts for all talks will be published in the meeting programme and will also be available at <http://cms.math.ca/CMS/Events/summer02>.

Abstracts may be sent electronically, following instructions given below. Electronic submission of abstracts is preferred. If this is not possible, abstracts may also be prepared on the standard form available from the CMS Executive Office, 577 King Edward, Suite 109, Ottawa, Ontario CANADA K1N 6N5.

Speakers are asked to submit their abstracts as soon as possible. The deadline for submission of abstracts has been set at **April 1, 2002**. The organizers appreciate the cooperation of all the speakers in observing this important deadline.

Contributed papers may be submitted up to May 15, 2002.

Electronic submission of abstracts: To submit your abstract, please go to the forms section of the meeting website: <http://cms.math.ca/CMS/Events/summer02>.

Alternatively, files including the session, speaker's name, affiliation, complete address, title of talk, and abstracts may be sent to abstracts@cms.math.ca (speakers), or cp-abstracts@cms.math.ca (contributed papers).

Please make sure to include the session name in your subject line.

Important deadline for submission of abstracts:

Invited Speakers : April 1, 2002

Contributed Papers : May 15, 2002.

Registration

The registration form will appear in the **February 2002** issue of the *CMS Notes* and are also available from:

CMS Executive Office
577 King Edward, Suite 109, P.O. Box 450, Station A
Ottawa, Ontario CANADA K1N 6N5
Tel: 613-562-5702 FAX: 613-565-1539
Email: meetings@cms.math.ca

Electronic pre-registration is available at <http://www.cms.math.ca/CMS/Events/summer02/forms.html>
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 IN OTTAWA on or before May 1 in order to qualify for reduced rates**. In order for your payment to be processed before the meeting, it should be received by May 31.

	Before May 1	After May 1
Delegate's Luncheon included		
Plenary speakers/prize lecturers	\$ 0	\$ 0
Session speakers	215	215
Organizers	145	145
Non-members	430	560
CMS/AMS/MAA members with grants	290	375
CMS/AMS/MAA members without grants	145	190
One-day fee	195	255
Postdocs, retired	110	145
Teachers (K-12, CEGEP), students, unemployed	55	70
Banquet (free for plenary/prize speakers)	50	50

CMS = Canadian Mathematical Society
AMS = American Mathematical Society
MAA = Mathematical Association of America

Refund Policy

Delegates wishing to cancel their registration must notify the CMS Executive Office **in writing before May 31** to receive a refund less a \$40 processing fee. Those whose contributed paper has not been accepted will upon request be fully refunded.

Accommodation

It is recommended that those attending the conference book early to avoid disappointment. Blocks of rooms have been reserved at the locations given below and will be held until the deadlines specified below. Reservations not made by that date will be on a request only, space available basis. Rates are per room, per night and are quoted in Canadian dollars.

Chateau Bonne Entente

3400, chemin Sainte-Foy, Québec (Québec) Canada G1X 1S6
Check-in: 3:00 p.m.; Check-out: 1:00 p.m.
Applicable taxes: GST (7%), PST (7.5%)
Deadline: May 4, 2002 Group Code: ULMATHS
Phone: 418-653-5221 toll-free: 800-463-4390
FAX: 418-653-3098 <http://www.chateaubonneentente.com>

email: hotel@chateaubonneentente.com

parking: free

Rates: \$79, motel section, single/double occupancy
\$135, luxury section, single/double occupancy
\$165, superior section, single/double occupancy
Other room types and suites are also available.
(Children 12 yrs old and under sharing parents' accommodation are complimentary.)

This is a four star hotel and is located about 10 minutes from Laval University, the hotel offers free parking and free shuttle service to the airport, Sainte-Foy train and bus station, Sainte-Foy shopping centers and Old Quebec, on an individual basis and upon availability.

Hotel Quartier

2955, Boulevard Laurier, Sainte-Foy (Québec) Canada G1V 2M2
Check-in: 3:00 - 4:00 p.m.; Check-out: 12:00 noon
Applicable taxes: GST (7%), PST (7.5%)
Deadline: May 10, 2002 Group Code: 1306soc
Phone: 418-650-1616 Toll-free: 1-888-818-5863
FAX: 418-650-6611
Email: info@hotelquartier.com <http://www.hotelquartier.com>

Parking: free

Rates: \$69, single/double occupancy
(Children 11 yrs old and under sharing parents' accommodation are complimentary.)
(includes free local calls)

This hotel is about 5 minutes away from the university by car or bus.

Hotel Universel

2300, chemin Ste-Foy, Sainte-Foy (Québec) Canada G1V 1S5
Check-in: 3:00 p.m.; Check-out: 12:00 noon
Applicable taxes: Hotel tax (\$2 per night) + GST (7%), PST (7.5%)
Deadline: May 10, 2002 Group Code: Réunion d'été 2002
Phone: 418-653-5250 toll-free: 800-463-4495
FAX: 418-653-4486 <http://www.hoteluniversel.qc.ca>
email: info@hoteluniversel.qc.ca

Parking: free

Rates: \$75, single/double occupancy
\$10, each additional person
(Children 16 yrs old and under sharing parents' accommodation are complimentary.)

This hotel is located at the entrance of Laval University.

Laval University Residences

Summer Housing, Local 1618, pavillon Alphonse-Marie-Parent
Cité universitaire, Québec (Québec) Canada G1K 7P4
Check-in: 2:00 p.m.; Check-out: 11:00 a.m.
Applicable taxes: GST (7%), PST (7.5%)
Deadline: May 10, 2002 Group Code: 80181
Phone: 418-656-5632 FAX: 418-656-2335
Email: hebergement@sres.ulaval.ca <http://www.ulaval.ca/sres>
Parking: free (ask for parking permit)
Rates: \$38, single occupancy
(includes breakfast and daily linen change)

In all cases, delegates must make their own reservations. The conference rate is extended up to two days pre- and post-convention. Where applicable, and in order for your room to be applied against our block, please quote the group code.

Accommodation reservations and cancellations: For the **Chateau Bonne Entente**, reservations will be held until 4:00 p.m. on the day of arrival unless the hotel receives a room deposit equal to the room for one night, by cheque, major credit card or acceptable letter of guarantee. Deposit is refundable without penalty if an individual guest cancels a room reservation 2 days prior to the day of arrival. Otherwise, the entire deposit is non refundable. In the case of a “no show”, the individual guest will be charged for the first night.

For the **Hotel Quartier**, reservations will be held until 4:00 p.m. on the day of arrival unless guaranteed by a first night deposit, or major credit card guarantee. Should a guaranteed reservation not be cancelled by 12:00 p.m. on the day of arrival, the cost of the room for the first night will be charged to the guarantor.

For the **Hotel Universel**, reservations will be held until 4:00 p.m. on the day of arrival unless guaranteed by a first night deposit, or major credit card guarantee. Should a guaranteed reservation not be cancelled by 4:00 p.m. on the day of arrival, the cost of the room for the first night will be charged to the guarantor.

For the **Laval University Residences**, a deposit is necessary to guarantee your reservation.

Child Care

The following information was provided by the three meeting hotels. Advance research and arrangements are recommended.

The Chateau Bonne Entente does provide in house child care services. Please contact the hotel directly at 418-653-5221 to make enquiries.

Both the Hotel Quartier and Hotel Universel recommend the firm of Service de gardiennes et d’aides familiale de Québec, 1323 Ave Maguire, local 102, Sillery G1T 1Z2. Please contact them directly at 418-659-3778. After normal business hours, please call 418-576-8258.

There is no current information regarding child care options at the University Residences. Updates will be posted to our website as they become available.

Travel

The City of Québec: This historic city is a great vacation spot and we hope you will take the opportunity to bring your family, stay a few extra days, and really enjoy this beautiful city.

Detailed information regarding Laval University and Québec City, including tourism information, local weather and climate, car rental information, site and street maps, and suggested One Day Itineraries for self-guided tours, are available at the websites:

<http://www.ulaval.ca/>

<http://www.otc.cuq.qc.ca/>

http://weatheroffice.ec.gc.ca/forecast/maps/qc_e.html

Parking: Delegates staying at the the Chateau Bonne Entente, Hotel Quartier, Hotel Universel and Laval Residences may park at no charge at those facilities.

For those not staying at Laval Residences, campus parking near the conference site is by means of a Pay and Display system. We recommend that you have change available for the parking permit dispensers.

Acknowledgements

Support from the following is gratefully acknowledged:

- Université Laval, Department of Mathematics & Statistics
- The National Programme Committee (a joint funding body of the Centre de recherches mathématiques, The Fields Institute for Research in Mathematical Sciences, and The Pacific Institute for the Mathematical Sciences)

The Canadian Mathematical Society would like to acknowledge the contribution of the members of the Meeting Committee for organizing this meeting.

Meeting Committee

Programme Meeting Director: Claude Levesque (Laval)
 A. Akbary (Lethbridge), B. Alspach (Regina), I. Assem (Sherbrooke), C. Chauve (UQAM), J. Chen (UBC), S. Corteel (CNRS et UQAM), D. Dawson (Carleton U.), F. Gourdeau (Laval), B.R. Hodgson (Laval), F. Huard (Bishop’s), J. Hyn-dman (UNBC), O. Kihel (Lethbridge), N. Lacroix (Laval), P. Leroux (UQAM), H. Manouzi (Laval), K. Murty (Toronto), R. Paré (Dalhousie), M. Radin (RIT), T. Ransford (Laval), P. Sastry (Toronto), G. Slade (UBC), D. Stinson (Waterloo), H. Williams (Calgary), S. Wismath (Lethbridge), Graham Wright (CMS ex-officio).

Local Arrangements Chair: Jean-Pierre Carmichael (Laval)
 Monique Bouchard (CMS ex-officio).

Réunion d'été de la SMC

Université Laval

Québec (Québec)

15-17 juin 2002

Première annonce

Au nom de l'Université Laval, le département de mathématiques et de statistique souhaite cordialement la bienvenue à tous les participants à la Réunion d'été 2002 de la Société mathématique du Canada.

Conformément au format habituel, la Réunion comprendra quatorze symposiums, des communications courtes, cinq conférences principales ainsi que les conférences des lauréats des prix Jeffery-Williams et Krieger-Nelson. De plus, une conférence populaire sera donnée par Jean-Marie De Koninck.

L'Université Laval annonce aussi qu'un doctorat en sciences honoris causa sera décerné au professeur Robert P. Langlands (IAS).

Toutes les activités au programme et celles qui précèdent la Réunion se dérouleront au pavillon Alphonse-Desjardins et au pavillon Alexandre-Vachon, ce dernier abritant la faculté de sciences et de génie de l'Université Laval.

Vous trouverez l'information la plus récente sur les programmes, y compris les horaires, à l'adresse Web suivante :

<http://www.smc.math.ca/Events/summer02/indexf.html>

Vous trouverez les formulaires d'inscription et de réservation d'hôtel dans le numéro de février 2002 des *Notes de la SMC*. Ils seront aussi publiés sur notre site Web, tout comme les formulaires électroniques d'inscription et de présentation des résumés.

Conférence populaire

Jean-Marie De Koninck (Université Laval)

Conférenciers principaux

David W. Henderson (Université Cornell)

Nikolai Nikolski (Université Bordeaux 1, Steklov Inst.)

Christophe Reutenauer (Université du Québec à Montréal)

Paul D. Seymour (Université Princeton)

Isadore M. Singer (MIT)

Prix

La conférence Jeffery-Williams de la SMC sera donnée par Edwin Perkins, de l'Université de la Colombie-Britannique. La conférence Krieger-Nelson de la SMC sera donnée par Priscilla Greenwood, Université de la Colombie-Britannique, Université d'Etat de l'Arizona.

Doctorat Honoris Causa

L'Université Laval annonce qu'un doctorat en sciences honoris causa sera décerné au professeur Robert P. Langlands (IAS) pendant la Réunion.

Symposiums

Le Comité de coordination a organisé des symposiums sur les thèmes qui suivent. Voici la liste préliminaire des conférenciers. Si on est intéressé à faire un exposé comme conférencier invité dans l'un des symposiums, on peut en faire la demande auprès des organisateurs de ce symposium.

(*) à confirmer.

Analyse

(Org: T. Ransford, Université Laval)

L. Baribeau (Laval), A. Boivin (Western)(*), T. Bloom (Toronto)(*), A. Brudnyi (Calgary), Y. Chen (Lakehead), B. Cole (Brown)(*), D. Coman (Syracuse)(*), G. Dafni (Concordia), R. Fournier (Montréal), A. Fraser (Dalhousie)(*), P. Gauthier (Montréal), F. Larusson (Western)(*), N. Levenberg (Syracuse)(*), J. Mashreghi (Laval), E. Poletsky (Syracuse), D. Rochon (UQTR)(*), J. Rostand (CRD, Ottawa), Z. Slodkowski (Illinois-Chicago), P. Vitse (Bordeaux/Laval), J. Wermer (Brown).

Géométrie algébrique arithmétique

(Org: Kumar Murty et P. Sastry, Université de Toronto)

D. Arapura (Purdue), N. Boston (Illinois-Urbana), B. Conrad (Michigan)(*), H. Darmon (McGill), E. Goren (McGill), H. Kisilevsky (Concordia), J. Lewis (Alberta), R. Murty (Queen's), R. Takloo-Bighash (Princeton), Y. Zarhin (Penn State).

Algèbres associatives

(Org: I Assem, Université de Sherbrooke, et F. Huard, Université Bishop)

I. Assem (Sherbrooke), J. Bilodeau (Toronto), R.-O. Buchweitz (Toronto)(*), J.C. Bustamante (Sherbrooke)(*), F. Huard (Bishop's), M. Kleiner (Syracuse), M. Lanzilotta (Republica, Uruguay), J. Lévesque (Sherbrooke), S. Liu (Sherbrooke)(*), A. Martsinkovsky (Northeastern), R. Raphael (Concordia)(*), D. Zacharia (Syracuse)(*).

Théorie des catégories

(Org: R. Paré, Université Dalhousie)

M. Barr (McGill), R. Blute (Ottawa), M. Bunge (McGill), R. Cockett (Calgary), R. Dawson (Saint Mary's), J. Duskin (SUNY-Buffalo), P. Freyd (Pennsylvania), D. Garraway (Colby), A. Joyal (UQAM), F. Linton (Wesleyan), W. MacCaull (St Francis Xavier), J. MacDonald (British Columbia), M. Makkai (McGill), S. Niefield (Union), R. Paré (Dalhousie), D. Pronk (Dalhousie), R. Rosebrugh (Mount Allison), P. Scott (Ottawa), R. Seely (McGill), J. Wick Pelletier (York), R. Wood (Dalhousie).

Combinatoire

(Org: **C. Chauvre**, UQAM, **S. Corteel**, CNRS et UQAM, et **P. Leroux**, UQAM)

F. Bergeron (UQAM), M. Bousquet(UQAM), M. Bousquet-Melou (UQAM/Bordeaux), I. Gessel (Waltham), I. Goulden (Waterloo), A. Goupil (UQAM), G. Labelle (UQAM), P. Lalonde (UQAM), V. Liskovets (Minsk), J. Morse (Penn State), I. Pak (Boston), J. Propp (Wisconsin)(*), F. Ruskey (Victoria), C. Savage (North Carolina), G. Schaeffer (Nancy), R. Stanley (MIT), J.-Y. Thibon (Paris), B. van Rensburg (Toronto), X. Viennot (Bordeaux), T.R. Walsh (UQAM), J. West (Victoria), C. Yan (College Station), D. Zeilberger (Princeton), J. Zeng (Lyon).

Cryptographie

(Org: **D. Stinson**, Université de Waterloo, et **H. Williams**, Université de Calgary)

M. Bauer (Waterloo), D. Bernstein (Illinois-Chicago), I. Blake (Toronto), D. Brown (Certicom), P. D'Arco (Waterloo), G. Gong (Waterloo), S. Hamdy (Calgary), A. Hasan (Waterloo), M. Jacobson (Manitoba), R. LaFlamme (Waterloo), S. Magliveras (Florida Atl.), R. Mollin (Calgary), K. Murty (Toronto), N. Pippenger (UBC), R. Scheidler (Calgary), A. Silverberg (Ohio State), A. Stein (Illinois-Urbana), S. Tavares (Queen's), E. Teske (Waterloo), G. Walsh (Ottawa), R. Wei (Lakehead).

Géométrie différentielle

(Org: **J. Chen**, Université de la Colombie-Britannique)

C. Arezzo (Università di Parma), J. Bryan (UBC), X. Chen (Princeton), A. Fraser (Brown), X. Liu (Notre Dame), P. Lu (McMaster), Z. Lu (California-Irvine), D. Matessi (Montréal), W. Minicozzi (Johns Hopkins)(*), M. Minoo (McMaster), G. Tian (MIT)(*), J. Viaclovsky (MIT), J. Wang (Minnesota), M. Wang (McMaster), R. Wentworth (Johns Hopkins).

Systèmes dynamiques

(Org: **Michael Radin**, RIT)

B. Brooks (RIT), S.A. Campbell (Waterloo), M.G. Cojocaru (Queen's), B. Dionne (Ottawa) (*), C. Kent (VCU), W. Kosmala (ASU), V. LeBlanc (Ottawa), S. Maggelakis (RIT), A. Novruzic (UBC), M.A. Radin (RIT), H. Sedaghat (VCU), C. Stoica (Victoria).

Théorie des graphes

(Org: **B. Alspach**, Université de Regina)

P. Balister (Memphis)(*), E. Dobson (Mississippi State), L. Goddyn (Simon Fraser), P. Hell (Simon Fraser), J. Janssen (Dalhousie)(*), D. Marusic (Ljubljana), M. Muzychuk (Netanya)(*), M. Sajna (Regina), M. Schultz (UNLV), D. Witte (Oklahoma State), X. Yu (Georgia Tech), C.-Q. Zhang (West Virginia).

Éducation mathématique

L'enseignement et l'apprentissage de la géométrie : pourquoi, quoi, comment.

(Org: **F. Gourdeau** et **B.R. Hodgson**, Université Laval)

J. Baracs (Montréal), D. W. Henderson (Cornell), M. Sinclair (York), W. Whiteley (York).

Les personnes intéressées à contribuer à cette séance sont invitées à communiquer avec F. Gourdeau (fredg@mat.ulaval.ca) ou B.R. Hodgson (bhodgson@mat.ulaval.ca).

Mathématiques financières

(Org: **Hassan Manouzi**, Université Laval)

Les personnes intéressées à contribuer à cette séance sont invitées à communiquer avec Hassan Manouzi (hm@mat.ulaval.ca).

Théorie des nombres

(Org: **A. Akbary** et **O. Kihel**, Université de Lethbridge)

E. Benjamin (Maine)(*), D. Bradley (Maine-Orono), S. Choi (Simon Fraser), A. Cojocaru (Queen's), C. Cummins (Concordia), C. Cunningham (Calgary), H. Darmon(McGill), C. David (Concordia), L. Davison (Laurentian), J.-M. De Koninck (Laval), S. El Morchid (Casablanca)(*), E. Goren (McGill), J.G. Huard (Canisius C.), C. Ingalls (New Brunswick), R. Mollin (Calgary), R. Murty (Queen's), A. Ozluk (Maine), D. Roy (Ottawa), A. Sebbar (Ottawa), C. Stewart (Waterloo), F. Thaine (Concordia), G. Walsh (Ottawa).

Théorie des probabilités

(Org: **D. Dawson**, Université Carleton et **G. Slade**, Université de la Colombie-Britannique)

M. Barlow (UBC), T. Cox (Syracuse), D. Dawson (Carleton/McGill), R. Durrett (Cornell), W. Hong (Carleton), N. Madras (York), C. Mueller (Rochester), J. Quastel (Toronto), A. Sakai (UBC), G. Slade (UBC), J. Walsh (UBC), X. Zhou (Concordia).

Algèbre universelle

(Org: **J. Hyndman** et **S. Wismath**, Université de Lethbridge)

C. Bergman (Iowa State), G. Gratzer (Manitoba), L. Hadad (RMCC)(*), B. Larose (Concordia), G. McNulty (South Carolina)(*), JB Nation (Hawaii), B. Sands (Calgary), M. Valeriote (McMaster), R. Willard (Waterloo)(*), Ji Young (Iowa State).

Communications courtes

(Org. : N. Lacroix et C. Levesque, Université Laval)

Nous lançons un appel de communications courtes de 15 minutes chacune. Afin de favoriser une assistance plus grande à ces exposés, il y aura des séances en parallèle de communications courtes et seulement de communications courtes, au cours desquelles aucun exposé des 13 autres séances n'est prévu.

Les résumés devront respecter les critères précisés ci-dessous et nous parvenir **au plus tard le 15 mai 2002**. Nous demandons à chacun de joindre au résumé le formulaire d'inscription et le règlement des frais pertinents.

Subventions pour étudiants diplômés

Les étudiants diplômés ont accès à un fonds limité pour financer une partie de leurs frais de déplacement et de séjour. Pour de plus amples renseignements, veuillez communiquer avec le Comité de coordination à l'adresse suivante : gradtravel-summer02@cms.math.ca.

Les demandeurs doivent être des étudiants de deuxième ou de troisième cycle inscrits dans une université canadienne ou étrangère. Toute demande de financement doit être accompagnée d'une lettre du superviseur de l'étudiant ou de la personne responsable des études supérieures de son département, dans laquelle il ou elle indiquera le nom de l'étudiant, son domaine et son niveau d'études, en quoi la Réunion sera profitable à l'étudiant, si l'étudiant présentera une communication et si l'étudiant a accès à d'autres sources de financement de son université (bourses, subventions, etc.).

Cette lettre doit parvenir à la SMC avant le **1er mai 2002** et peut être envoyée par courriel (gradtravel-summer02@cms.math.ca). **Les décisions seront annoncées au début de mai.**

Si une subvention est accordée à l'étudiant, ce dernier se verra rembourser ses dépenses sur présentation du formulaire de remboursement approprié accompagné des reçus originaux.

Activités sociales

Une **réception** aura lieu le vendredi 14 juin, de 19 h à 21 h, au foyer du pavillon Alphonse-Desjardins de l'Université Laval.

Le **lunch des participants** se tiendra le samedi 15 juin, de midi à 14 h, au pavillon Alphonse-Desjardins de l'Université Laval. Ce repas est compris dans toutes les catégories d'inscription.

Un **banquet** aura lieu le dimanche 16 juin, à compter de 19 h 30, au Musée du Québec, Parc des Champs-de-Bataille. Il y aura un service de bar payant à partir de 18 h 30 dans le Grand hall. On peut se procurer des billets pour cette activité au coût de 50 \$ chacun.

Du café et des jus seront servis pendant les pauses.

Séances de travail

La SMC organisera des séances de travail à l'occasion de cette Réunion. De plus amples renseignements seront fournis dans les prochaines annonces ou sur le site Web de la Société.

Le **Comité exécutif de la SMC** tiendra une réunion le jeudi 13 juin de 18 h à 22 h à l'Université Laval (local à confirmer).

Le lunch du **Groupe de développement de la SMC** aura lieu de 11 h à 13 h le vendredi 14 juin à l'Université Laval (local à confirmer).

La réunion du **Conseil d'administration de la SMC** aura lieu de 13 h 30 à 18 h 30 le vendredi 14 juin à l'Université Laval (local à confirmer).

L'**assemblée générale annuelle de la SMC** aura lieu le dimanche 16 juin à l'Université Laval (local à confirmer). Un lunch sera servi. Tous les membres de la SMC sont invités.

Exposition

Les kiosques d'exposition seront ouverts aux heures indiquées durant la Réunion.

Envoi des résumés

Tous les résumés paraîtront dans le programme de la Réunion et seront accessibles sur le site Web : <http://smc.math.ca/CMS/Events/summer02/indexf.html>.

Les participants peuvent envoyer leur résumé sous forme électronique en suivant les instructions ci-dessous. Il est préférable de remettre les résumés par voie électronique, mais si ce n'est pas possible, vous pouvez utiliser le formulaire standard que vous pourrez vous procurer au Bureau administratif de la SMC, 577, avenue King-Edward, bureau 109, Ottawa (Ontario) Canada K1N 6N5.

Les conférenciers sont priés de remettre leur résumé le plus tôt possible. La date limite est fixée au **1er avril 2002**. Les organisateurs remercient les conférenciers de bien vouloir respecter cette importante échéance.

La date limite pour les communications courtes est fixée au 15 mai 2002.

Envoi des résumés par courriel : Pour envoyer votre résumé, rendez-vous à la section des formulaires du site Web de la Réunion : <http://cms.math.ca/CMS/Events/summer02>.

Vous pouvez aussi nous faire parvenir un fichier comprenant le nom de la séance, le nom du conférencier, son affiliation, son adresse complète, le titre de la conférence et le résumé à l'une des adresses suivantes : resumes@smc.math.ca (conférenciers invités), ou cl-resumes@smc.math.ca (communications courtes).

N'oubliez pas de préciser le nom de la séance dans le sujet de votre message.

Important – Date limite de remise des résumés :
conférenciers invités: 1er avril 2002
communications courtes: 15 mai 2002.

Inscription

Un formulaire d'inscription paraîtra dans le numéro de **février 2002** des *Notes*. On peut également se le procurer auprès de la SMC :

Bureau administratif de la SMC, 577, av. King-Edward, bureau 109
 C.P. 450, Succursale A, Ottawa (Ontario) CANADA K1N 6N5
 Téléphone : 613-562-5702, Télécopieur : 613-565-1539
 Courriel : reunions@smc.math.ca

Vous pouvez aussi vous inscrire sur le Web au :
<http://www.cms.math.ca/CMS/Events/summer02/formsf.html>
 Les frais (en devises canadiennes) sont payables par chèque, VISA ou MasterCard. Les paiements en devises américaines seront acceptés, mais nous vous demandons de contacter votre institution financière pour prendre connaissance du taux de change en vigueur.

Le paiement doit nous PARVENIR À OTTAWA au plus tard le 1er mai pour que vous ayez droit aux tarifs réduits. Pour que votre inscription soit terminée avant la Réunion, votre paiement doit nous parvenir au plus tard le 31 mai.

Lunch des participants inclus	Avant le 1er mai	Après le 1er mai
Conférenciers principaux ou primés	\$ 0	\$ 0
Conférenciers	215	215
Organisateurs	145	145
Non-membres	430	560
Membres SMC/AMS/MAA avec subvention	290	375
Membres SMC/AMS/MAA sans subvention	145	190
Frais d'une journée	195	255
Postdocs, retraités	110	145
Enseignant(e)s (élem., second., CEGEP), étudiant(e)s, sans-emploi	55	70
Banquet (gratuits pour principaux/primés)	50	50

SMC = Société mathématique du Canada
 AMS = American Mathematical Society
 MAA = Mathematical Association of America

Politique de remboursement

Les participants qui désirent annuler leur inscription doivent en aviser le bureau administratif de la SMC **par écrit avant le 31 mai** pour se voir rembourser leurs frais d'inscription (moins 40 \$). Les participants dont les communications courtes n'auront pas été acceptées seront remboursés intégralement sur demande.

Hébergement

Il est fortement recommandé aux participants de réserver à l'avance. Des chambres ont été retenues aux endroits ci-dessous jusqu'aux dates précisées. Après ces dates, les hôtels ne prendront vos réservations que s'il reste des chambres. Les tarifs sont par nuit, par personne, et sont indiqués en devises canadiennes.

Château Bonne Entente

3400, chemin Sainte-Foy, Québec (Québec) Canada G1X 1S6
 Arrivée : 15 h; départ : 13 h
 Taxes applicables : TPS (7 %), taxe provinciale (7.5 %)

Réserver au plus tard le 4 mai 2002

Code de groupe : ULMATHS

Téléphone : 418-653-5221 sans frais : 800-463-4390

FAX : 418-653-3098

Site Web : <http://www.chateaubonneentente.com>

courriel : hotel@chateaubonneentente.com

stationnement : gratuit

Tarifs : 79\$, section motel, 1 ou 2 personnes
 135\$, section luxueuse, 1 ou 2 personnes
 165 \$, section supérieure, 1 ou 2 personnes
 L'hôtel offre aussi d'autres options
 (Gratuit pour les enfants de moins de 13 ans
 qui partagent la chambre de leurs parents.)

C'est un hôtel quatre étoiles situé à une dizaine de minutes de l'Université Laval. L'hôtel offre, sans frais, le stationnement et un service de navette vers l'aéroport, la gare et le terminus d'autobus de Sainte-Foy, les centres commerciaux de Sainte-Foy et le Vieux-Québec, sur une base individuelle et selon la disponibilité.

Hôtel Quartier

2955, Boulevard Laurier, Sainte-Foy (Québec) Canada G1V 2M2

Arrivée : 15 h à 16 h; départ : 12 h

Taxes applicables : TPS (7 %), taxe provinciale (7.5 %)

Réserver au plus tard le 10 mai 2002

Code de groupe : 1306soc

Téléphone : 418-650-1616 sans frais: 1-888-818-5863

FAX : 418-650-6611 courriel : info@hotelquartier.com

Site Web : <http://www.hotelquartier.com>

Stationnement: gratuit

Tarifs : 69 \$, 1 ou 2 personnes
 (gratuit pour les enfants de moins de 12 ans
 qui partagent la chambre de leurs parents)
 appels locaux gratuits

Cet hôtel est situé à 5 minutes de voiture ou d'autobus de l'université.

Hôtel Universel

2300, chemin Ste-Foy, Sainte-Foy (Québec) Canada G1V 1S5

Arrivée : 15 h; départ : 12 h

Taxes applicables : Taxe d'hébergement (2\$ par nuit) + TPS (7 %) + taxe provinciale (7.5 %)

Réserver au plus tard le 10 mai 2002

Code de groupe : Réunion d'été 2002

Téléphone : 418-653-5250 sans frais : 800-463-4495

FAX : 418-653-4486 <http://www.hoteluniversel.qc.ca>

Courriel : info@hoteluniversel.qc.ca

Stationnement: gratuit

Tarifs : 75 \$, 1 ou 2 personnes
 10 \$, par personne additionnelle
 (Gratuit pour les enfants de moins de 17 ans
 qui partagent la chambre de leurs parents.)

Cet hôtel est situé à l'entrée de l'Université Laval.

Résidences de l'Université Laval

Hébergement d'été, Local 1618, pavillon Alphonse-Marie-Parent

Cité universitaire (Québec) Canada G1K 7P4

Arrivée : 14 h; départ : 11 h

Taxes applicables : TPS (7 %) + taxe provinciale (7.5 %)

Réserver au plus tard le 10 mai 2002

Code de groupe : 80181

Téléphone : 418-656-5632 FAX: 418-656-2335

Courriel: hebergement@sres.ulaval.ca <http://www.ulaval.ca/sres>

Stationnement: gratuit (demander un permis)

Tarifs : 38\$, 1 personne

(petit déjeuner et entretien quotidien inclus)

Vous êtes priés de faire vos propres réservations. Les tarifs préférentiels s'appliquent aussi aux deux jours qui précèdent et qui suivent la Réunion. S'il y a lieu et pour que votre chambre soit prise dans le groupe de chambres réservées, veuillez donner le code de groupe.

Réservations et annulations : Au Château Bonne Entente, les réservations sont garanties jusqu'à 16 h le jour d'arrivée sauf si l'hôtel a déjà reçu un dépôt équivalent à la première nuit payé par chèque, une carte de crédit reconnue ou une lettre de garantie acceptable. Tout dépôt est remboursable sans pénalité si une personne annule sa réservation deux jours avant la date d'arrivée prévue. Autrement, le dépôt en entier ne sera pas remboursé. Si une personne ne se présente pas à l'hôtel, on lui facturera la première nuit de sa réservation.

À l'**Hôtel Quartier**, les chambres sont réservées jusqu'à 16 h le jour de l'arrivée, à moins que la réservation ne soit garantie par le paiement de la première nuit ou par une carte de crédit reconnue. Les dépôts sont remboursables si la réservation est annulée avant 12 h la date d'arrivée prévue.

À l'**Hôtel Universel**, les chambres sont réservées jusqu'à 16 h le jour de l'arrivée, à moins que la réservation ne soit garantie par le paiement de la première nuit ou par une carte de crédit reconnue. Les dépôts sont remboursables si la réservation est annulée avant 16 h la date d'arrivée prévue.

Aux **Résidences de l'Université Laval**, un dépôt est nécessaire pour garantir la réservation.

Services de garde

Les renseignements suivants ont été fournis par les trois hôtels prévus pour la Réunion. On vous recommande de faire vos démarches et vos réservations à l'avance.

Le Château Bonne Entente offre des services de garde. Prière de communiquer avec l'hôtel directement au (418) 653-5221 pour faire une demande.

L'Hôtel Quartier et l'Hôtel Universel recommandent tous deux les services de l'entreprise suivante : Service de gardiennes et d'aides familiales de Québec, 1323, avenue Maguire, local 102, Sillery (Québec) G1T 1Z2. Communiquer directement avec l'entreprise au (418) 659-3778. Avant ou après les heures normales, composez le (418) 576-8258.

Les résidences de l'université n'ont fourni aucun renseignement sur les services de garde. Nous publierons tout nouveau renseignement sur le site Web dès que nous le recevrons.

Déplacements

Ville de Québec : Cette ville historique est un lieu idéal pour prendre des vacances, et nous espérons que vous en profiterez pour amener votre famille, prolonger votre séjour et profiter pleinement de cette ville superbe.

Vous trouverez des renseignements détaillés sur l'Université Laval et la ville de Québec (renseignements touristiques, température et climat locaux, cartes de la ville et des attractions touristiques, etc.) sur les sites Web suivants : <http://www.ulaval.ca/>
<http://www.otc.cuq.qc.ca/>
http://weatheroffice.ec.gc.ca/forecast/maps/qc_f.html

Stationnement : Le stationnement est gratuit pour les participants qui séjournent au Château Bonne Entente, à l'Hôtel Quartier, à l'Hôtel Universel et aux résidences de l'Université Laval.

Ceux et celles qui ne logeront pas aux résidences pourront garer leur voiture près du lieu de la conférence dans un terrain de stationnement muni d'un kiosque de paiement automatique. Nous vous recommandons d'avoir toujours de la monnaie sur vous pour payer.

Remerciements

Nous remercions les organismes suivants de leur soutien financier :

- le Département de mathématiques et statistique de l'Université Laval
- le Comité du programme national (programme conjoint du Centre de recherches mathématiques, de l'Institut Fields et de l'Institut Pacific)

La Société mathématique du Canada tient à remercier les membres du Comité de coordination pour l'organisation de cette Réunion.

Comité de coordination

Programme Président et coordinateur : *Claude Levesque (Laval)* – A. Akbary (Lethbridge), B. Alspach (Regina), I. Assem (Sherbrooke), C. Chauve (UQAM), J. Chen (UBC), S. Corteel (CNRS et UQAM), D. Dawson (Carleton U.), F. Gourdeau (Laval), B.R. Hodgson (Laval), F. Huard (Bishop's), J. Hyndman (UNBC), O. Kihel (Lethbridge), N. Lacroix (Laval), P. Leroux (UQAM), H. Manouzi (Laval), K. Murty (Toronto), R. Paré (Dalhousie), M. Radin (RIT), T. Ransford (Laval), P. Sastry (Toronto), G. Slade (UBC), D. Stinson (Waterloo), H. Williams (Calgary), S. Wismath (Lethbridge), Graham Wright (SMC, d'office).

Logistique Président du comité local : *Jean-Pierre Carmichael (Laval)* – Monique Bouchard (SMC, d'office).

**CANADIAN MATHEMATICAL SOCIETY
REGISTRATION FORM - CMS SUMMER MEETING 2002
June 15-17, 2002 - Université Laval, Québec City, Québec**

To register electronically, go to <http://www.cms-math.ca/Events/summer02/forms.html>

Deadlines:	Preregistration for reduced rates	payment by May 1
	Arrival of payments to be processed before the meeting	May 31
	Cancellation (refund less \$40 penalty)	May 31

LASTNAME:	FIRSTNAME:	CMS ID #
Institution (for badge):		
Mailing Address:		Voluntary Information:
<input type="checkbox"/> home OR		<input type="checkbox"/> Male
<input type="checkbox"/> office		<input type="checkbox"/> Female
Telephone:	Email:	
Arrival date:	Departure date:	
PLEASE MAKE YOUR HOTEL RESERVATIONS. DEADLINE : see below		
Where will you be staying? <input type="checkbox"/> No housing required OR <input type="checkbox"/> Laval Residences BY MAY 10		
<input type="checkbox"/> Chateau Bonne Entente BY MAY 4 <input type="checkbox"/> Hotel Quartier BY MAY 10 <input type="checkbox"/> Hotel Universel BY MAY 10		
Special diets : <input type="checkbox"/> Kosher <input type="checkbox"/> Vegetarian <input type="checkbox"/> Diabetic <input type="checkbox"/> Low fat <input type="checkbox"/> Milk allergy <input type="checkbox"/> Nut allergy <input type="checkbox"/> Other:		
I am <input type="checkbox"/> a Plenary Speaker <input type="checkbox"/> a Prize Recipient <input type="checkbox"/> a Session Speaker <input type="checkbox"/> an Organizer <input type="checkbox"/> a delegate		
INVITED SPEAKER ABSTRACT DEADLINE : APRIL 1		
<input type="checkbox"/> I would like to deliver a contributed paper.		
CONTRIBUTED PAPER DEADLINE (ABSTRACT & REGISTRATION) : MAY 15		
Please remember, we cannot consider the contributed paper abstracts until registration fees are received.		
TO SUBMIT YOUR ABSTRACT, GO TO http://www.cms-math.ca/Events/summer02/forms.html		
Memberships: <input type="checkbox"/> CMS <input type="checkbox"/> CAIMS <input type="checkbox"/> CORS <input type="checkbox"/> CSHPM <input type="checkbox"/> SSC <input type="checkbox"/> AMS <input type="checkbox"/> MAA <input type="checkbox"/> SIAM <input type="checkbox"/> AWM		
(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"/> CEPEG teacher <input type="checkbox"/> Student <input type="checkbox"/> Postdoctoral fellow <input type="checkbox"/> Retired <input type="checkbox"/> Unemployed		
PLEASE INDICATE WHICH SPECIAL OR RELATED EVENT(S) YOU MIGHT BE ATTENDING		
<input type="checkbox"/> Public Lecture		
PLEASE INDICATE WHICH SESSION(S) YOU MIGHT BE ATTENDING		
<input type="checkbox"/> Analysis	<input type="checkbox"/> Arithmetic Algebraic Geometry	<input type="checkbox"/> Associative Algebras
<input type="checkbox"/> Category Theory	<input type="checkbox"/> Combinatorics	<input type="checkbox"/> Cryptography
<input type="checkbox"/> Differential Geometry	<input type="checkbox"/> Graph Theory	<input type="checkbox"/> Mathematical Education
<input type="checkbox"/> Mathematics of Finance	<input type="checkbox"/> Number Theory	<input type="checkbox"/> Probability Theory
<input type="checkbox"/> Universal Algebra	<input type="checkbox"/> Contributed Papers	<input type="checkbox"/> Other :

Don't forget to purchase your ticket for the banquet !!
All categories include a ticket to the Delegates' Luncheon.

Please circle one of the registration categories in the chart below	Before May 1	After May 1
Plenary Speaker / Prize Lecturer	\$ 0	\$ 0
Session Speakers (choose this or other category, whichever is less)	215	215
Organizers (choose this or other category, whichever is less)	145	145
Non-members	430	560
CMS/AMS/MAA members with grants	290	375
CMS/AMS/MAA members without grants	145	190
One-day fee	195	265
Postdocs, retired	110	145
Teachers (K-12, CEPEG), students, unemployed	55	70
Banquet, Sunday, June 16 (free for plenary/prize speakers)	50	50

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

Send completed form with payment to:
CMS Executive Office, 577 King Edward, POB 450, Station A, Ottawa, ON CANADA K1N 6N5
Phone: 613-562-5702 FAX 613-565-1519 (Please use the FAX # for credit card payments only.)

Don't forget to allow ample time for your registration to reach us before the deadline date.

**SOCIÉTÉ MATHÉMATIQUE DU CANADA
FORMULAIRE D'INSCRIPTION - ÉTÉ 2002
15-17 juin 2002 - Université Laval, Québec (Québec)**

Vous pouvez aussi vous inscrire sur le Web au <http://www.cms.math.ca/Events/summer02/forms.html>

Dates importantes:	Préinscription à prix réduit	paiement avant le 1er mai
	Arrivée de paiement pour compléter l'inscription avant la Réunion	31 mai
	Annulation - Préinscription (remboursement moins 40 \$)	31 mai
NOM:	PRENOM:	No. SMC
Établissement (pour le "badge"):		
Adresse postale:		Information optionnelle:
<input type="checkbox"/> domicile OU		<input type="checkbox"/> Homme
<input type="checkbox"/> travail		<input type="checkbox"/> Femme
Téléphone:	Courrier él:	
Date d'arrivée:	Date de départ:	
VOUS ÊTES PRIÉS DE FAIRE VOS PROPRES RÉSERVATIONS D'HÔTEL. DATE LIMITE : voir ci-dessous		
Votre choix d'hôtel? <input type="checkbox"/> Aucune réservation nécessaire OU <input type="checkbox"/> Résidences Laval 10 MAI		
<input type="checkbox"/> Château Bonne Entente 4 MAI <input type="checkbox"/> Hôtel Quartier 10 MAI <input type="checkbox"/> Hôtel Universel 10 MAI		
<input type="checkbox"/> Kasher <input type="checkbox"/> Végétarien <input type="checkbox"/> Diabétique <input type="checkbox"/> Pauvre en mat grasses <input type="checkbox"/> Allergie-lait <input type="checkbox"/> Allergie-noix <input type="checkbox"/> Autre:		
Je suis un: <input type="checkbox"/> organisateur <input type="checkbox"/> conférencier primé <input type="checkbox"/> conf. principal <input type="checkbox"/> conf. de séance <input type="checkbox"/> participant		
DATE LIMITE POUR CONFÉRENCIER PRIMÉ/PRINCIPAL/DE SÉANCE (RÉSUMÉ) : 1 AVRIL		
<input type="checkbox"/> J'aimerais présenter une communication courte.		
DATE LIMITE POUR COMMUNICATIONS COURTES (RÉSUMÉ ET INSCRIPTION) : 15 MAI		
Le résumé sera évalué une fois que les frais d'inscription seront reçus.		
PAGE WEB POUR ENVOIE DE RÉSUMÉS: http://www.cms.math.ca/Events/summer02/forms.html		
Adhésion: <input type="checkbox"/> SMC <input type="checkbox"/> SCMA <input type="checkbox"/> SCRO <input type="checkbox"/> SCHPM <input type="checkbox"/> SSC <input type="checkbox"/> AMS <input type="checkbox"/> MAA <input type="checkbox"/> SIAM <input type="checkbox"/> AWM		
Cocher: <input type="checkbox"/> Professeur d'université <input type="checkbox"/> Enseignant - élém. <input type="checkbox"/> Enseignant - secondaire <input type="checkbox"/> Enseignant - Collège		
s.v.p. <input type="checkbox"/> Enseignant - CÉGEP <input type="checkbox"/> Étudiant(e) <input type="checkbox"/> Postdoc <input type="checkbox"/> À la retraite <input type="checkbox"/> Sans-emploi		
VEUILLEZ INDICER À QUEL(S) ÉVÈNEMENT(S) VOUS PARTICIPÉREZ		
<input type="checkbox"/> Conférence publique		
VEUILLEZ INDICER À QUELLE(S) SÉANCE(S) VOUS PARTICIPÉREZ		
<input type="checkbox"/> Analyse <input type="checkbox"/> Géométrie algébrique arith. <input type="checkbox"/> Algèbre associatives		
<input type="checkbox"/> Théorie des catégories <input type="checkbox"/> Combinatoires <input type="checkbox"/> Cryptographie		
<input type="checkbox"/> Géométrie différentielle <input type="checkbox"/> Théorie des graphes <input type="checkbox"/> Éducation mathématique		
<input type="checkbox"/> Mathématiques financières <input type="checkbox"/> Théorie des nombres <input type="checkbox"/> Théorie des probabilités		
<input type="checkbox"/> Algèbre universelle <input type="checkbox"/> Communications courtes <input type="checkbox"/> Autre :		

N'oubliez pas d'acheter votre billet pour le banquet !!

Un billet pour le lunch des délégués est inclus dans toutes les catégories d'inscription.

Veillez encadrer la catégorie d'inscription choisie	Avant le 1 mai	Après le 1 mai
Conférenciers principaux / conférenciers primés	0 \$	0 \$
Conférenciers (choisissez cette catégorie ou une autre: montant moins élevé)	215	215
Organisateurs(choisissez cette catégorie ou une autre: montant moins élevé)	145	145
Non-membres	430	560
Membres SMC/AMS/MAA avec subvention	290	370
Membres SMC/AMS/MAA sans subvention	145	180
Frais d'une journée	195	255
Postdocs, retraités	110	145
Enseignant (élém., second., CÉGEP), étudiants, sans-emploi	55	70
Banquet, dimanche 16 juin (gratuit pour les conférenciers principaux / primés)	50	50
Inscription: \$ @	Banquet =	\$ TOTAL
Mode de paiement: <input type="checkbox"/> Chèque (au nom de la SMC) <input type="checkbox"/> VISA <input type="checkbox"/> Master Card <input type="checkbox"/> Rem. de commande		
Carte de crédit #:		Date d'expiration:
Veillez inscrire votre nom (tel qu'il apparaît sur votre carte) en lettres moulées et signer.		
Si vous utilisez la carte d'une autre personne, veuillez inscrire le nom du détenteur et le faire signer.		
Lettres moulées		Signature

Veillez envoyer ce formulaire et votre paiement à :

Bureau de la SMC, 577, av. King-Edward, C.P. 450, Succursale A, Ottawa (Ontario) CANADA K1N 6N5

Téléphone: (613) 563-5702 Télécopieur: (613) 565-1530 (FAX pour paiements par carte de crédit seulement.)

N'oubliez pas d'envoyer votre inscription assez longtemps à l'avance pour qu'elle nous parvienne avant la date limite!

CALL FOR NOMINATIONS / APPEL DE CANDIDATURES

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

The Publications Committee of the CMS solicits nominations for one Associate Editor for the Canadian Journal of Mathematics (CJM) and the Canadian Mathematical Bulletin (CMB). The appointment will be for five years beginning January 1, 2003. The continuing members (with their end of term) are below.

CJM Editors-in-Chief / Rédacteurs-en-chef du CJM :

Henri Darmon and/et Niky Kamran, McGill (2006)

Rédacteurs-en-chef du BCM / CMB Editors-in-Chief:

James Lewis, Arturo Pianzola; Alberta and/et Noriko Yui; Queen's (2005)

Associate Editors / Rédacteurs associés :

The deadline for the submission of nominations is **April 15, 2002**. Nominations, containing a curriculum vitae and the candidate's agreement to serve should be sent to the address below.

Le comité des publications de la SMC sollicite des mises en candidatures pour une poste 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 2003. Les membres qui continuent suivent.

F. Shahidi, Purdue (2005)	M. Barlow, UBC (2004)
F. Lalonde, Montréal (2003)	P. Borwein, SFU (2004)
J. Millson, Maryland (2003)	N. Pippenger, UBC (2004)
C. Sulem, Toronto (2003)	G. Elliott, Toronto (2005)
A. Geramita, Queen's (2006)	V. Kac, MIT (2006)
M. Zworski, California (2006)	J. Bland, Toronto (2002)
R. Murty, Queen's (2006)	

L'échéance pour proposer des candidats est le **15 avril 2002**. Les mises en candidature, accompagnés d'un curriculum vitae ainsi que du consentement du candidat(e), devrait être envoyées à l'adresse ci-dessous.

Keith Taylor, Chair / Président
CMS Publications Committee / Comité des publications de la SMC
Department of Mathematics and Statistics
University of Saskatchewan, McLean Hall, 106 Wiggins Road
Saskatoon, Saskatchewan S7N 5E6
chair-pub@cms.math.ca

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 2002 Meeting in Ottawa, Ontario. 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 2003 Meeting in Edmonton, Alberta. 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 2003 Meeting in Edmonton, Alberta. Nomination letters should include three names of suggested referees.

The deadline for nominations is **September 1, 2002**. Let-

ters of nomination should be sent to the address below:

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 2002 en Ottawa (Ontario). 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 2003 au Edmonton (Alberta). 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 excep-

tionnel des mathématiciennes au Canada. La Conférence sera présentée lors de la réunion d'été 2003 au Edmonton (Alberta). 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 2002**. Les lettres de mises en candidatures devraient être envoyées à :

Douglas Stinson, CMS Research Committee / Comité de recherche de la SMC
Department of Pure Mathematics, University of Waterloo
200 University Ave West, Waterloo, ON Canada N2L 3G1

2002 Adrien Pouliot Award / Prix Adrien-Pouliot 2002

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 2001 can renew this nomination by simply indicating their wish to do so by the deadline date. Only materials updating the 2001 Nomination need be provided as the original has been retained.

Nominations must be received by the CMS Office no later **April 30, 2002**. Please send six copies of each nomination to the following address:

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

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 2002**. Veuillez faire parvenir vos mises en candidature en six exemplaires à l'adresse suivante:

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. Awards were presented at the 1996 Winter Meeting in London, Ontario to David Borwein and P.G. (Tim) Rooney, at the 1999 Summer Meeting in St. John's, Newfoundland to Michael Doob and S. Swaminathan, and at the 2000 the Winter Meet-

ing in Vancouver, British Columbia to Arthur Sherk. The 2001 award was presented to James Timourian at the Winter Meeting in Toronto, Ontario.

Nominations should include a reasonably detailed rationale and be submitted by **March 31, 2002**, 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, Donald Coxeter, Nathan Mendelsohn, John Coleman, Maurice L'Abbé et George Duff, furent honorés lors de la réunion d'hiver 1995 à Vancouver. Les lauréats, David Borwein et P.G. (Tim) Rooney, furent honorés lors de la réunion d'hiver 1996 à London, Ontario. Les lauréats, Michael Doob et S. Swaminathan, furent honorés lors de la réunion d'été 1999 à St. John's, Terre-Neuve.

Arthur Sherk fut honoré à la réunion d'hiver 2000 au Vancouver, Colombie-britannique. et James Timourian fut honoré à la réunion d'hiver 2001 à Toronto, Ontario.

Pour les mises en candidature prière de présenter des dossiers suffisamment détaillés et de les faire parvenir, le **31 mars 2002** 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

CONCORDIA UNIVERSITY – MONTREAL, QUEBEC FACULTY OF ARTS AND SCIENCES

Tenure-Track Positions in Statistics

Concordia University's Department of Mathematics and Statistics invites applications for up to two tenure-track positions in Statistics. We are particularly interested in candidates with expertise in Computational Statistics, Multivariate Analysis, Time Series Analysis or Survival Analysis. Applicants should be familiar with computational techniques and have a proven record of research as well as a demonstrated interest in teaching, both at the undergraduate and graduate levels.

Please forward a letter of intent, a curriculum vitae, a list of publications, a statement of teaching and research interests, and three letters of reference to:

Dr. Hershy Kisilevsky
Chair, Department of Mathematics and Statistics
Concordia University,
1455 de Maisonneuve Blvd. West, HB-200
Montreal, Quebec, H3G 1M8

Review of applications will begin on December 14, 2001 and continue until the position is filled.

Subject to budgetary approval, we anticipate filling this position, normally at the rank of Assistant Professor, for July 1, 2002.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. However, all applicants are welcome to apply. Concordia University is committed to employment equity and encourages applications from women, aboriginal peoples, visible minorities and disabled persons.

NEWS FROM DEPARTMENTS

Concordia University, Montreal, QC

Appointments: Jack Fearnley (number theory) and Malcolm Harper (number theory), Adjunct Professors 2001-02; Srinath Baba (number theory, arithmetic geometry), Marco Bertola (mathematical physics, axiomatic quantum field theory), Paul Bracken (differential geometry, quantum field theory), Lionel Hohoueto (mathematical physics), Ambrus Pal (arithmetic algebraic geometry), Amritanshu Prasad (automorphic forms for function fields), Jorgen Rasmussen (algebra), Anupam Saikia (number theory), David Savitt (arithmetic geometry),

Alexandru Tupan (number theory, arithmetic geometry) and Jie Xiao (complex and harmonic analysis, operator theory) Research Assistant Professors, 2001-02; M. Babich (mathematical physics), Visiting Professor, Jan-May 2002.

Simon Fraser University, Burnaby, BC

Appointment: Veselin Jungi (Lecturer, December 2001).

Promotion: M. C. Kropinski (Associate Professor, promotion with tenure, September 2001).

Retirement: Brian Thomson (analysis, August 2001)

Award: Keith Promislow and his team were awarded the Pacific Institute of Mathematical Science (PIMS) first Industrial Outreach Prize for the development of mathematical models that help Ballard Power Systems design more efficient fuel cells.

Université Laval, Québec, QC

Retirement: Philippe Capra a prit sa retraite le premier jan-

vier 2002. Arrivé Laval en juillet 1969, il a été responsable de la creation du programme de baccalaurat en statistique en 1980. Il a aussi contribué la creation du programme de maîtrise en statistique en 1992. Spécialiste de la statistique nonparamétrique et des mesures de dépendance, il a dirigé une dizaine d'étudiants à la maîtrise ou au doctorat.

OBITUARY / AVIS DE DÉCÈS

Olga Arsienevna Oleinik (1925–2001)

Professor Olga Arsienevna Oleinik passed away on October 11, 2001, at the age of 76. She made her mark through out the world with her articles (almost three hundred!) and her monographs. After having completed her thesis under the guidance of Professor Petrovski, she began her career at Moscow State University. She became professor in the same university and for a long period was the head of the chair of Differential Equations. She has guided much research, was the adviser of more than fifty mathemati-

cians, some twenty of which obtained the degree of Doctor of Science.

The range of interest of Professor Oleinik was very wide, from the study of Real Analytic Manifolds (in connection with Hilbert's sixteenth problem) to the questions of existence and uniqueness of solutions of linear and non-linear partial differential equations.

She is the author of very general and elegant proofs of Korn's inequality, an essential tool in the theory of elasticity. She gave talks in numerous international congresses and seminars in universities throughout the world. She was a member of the Russian Academy

of Sciences and other academies, she was also a Doctor Honoris Causa of many foreign universities. Professor Oleinik was awarded the medal of the College de France. J. Leray and J.-L. Lions invited her several times to this eminent institution, since some of her work was related to those of the two distinguished mathematicians.

She will also be remembered as a lady with a very strong personality. She was very generous with her colleagues and her friendship, once acquired, was limitless. Her loss will be deeply felt by the international mathematical community.

Mireille Chaleyat-Maurel

CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

FEBRUARY 2002

2–3 9th Southern California Geometric Analysis Seminar (UC at Irvine, CA)

<http://www.math.uci.edu/scgas>

27–March 3 Group Actions on Rational Varieties (CRM, Université de Montreal, Montreal)

activites@crm.umontreal.ca,

<http://www.CRM.UMontreal.CA/geometry/>

MARCH 2002

18–23 Third Annual Colloquiumfest (University of Saskatchewan, Saskatoon, SK)

[://math.usask.ca/fvk/Mb3.htm](http://math.usask.ca/fvk/Mb3.htm)

26–April 4 Instructional Conference on Combinatorial Aspects of Mathematical Analysis (ICMS, Edinburgh, UK)

<http://www.ma.hw.ac.uk/icma/current/>

APRIL 2002

5–6 The 28th Annual New York State Regional Graduate Mathematics Conference (Syracuse University, Syracuse,

FÉVRIER 2002

New York)

<http://math.syr.edu/mgo/conference/conf.html>

8–19 Invariant Theory (Queen's University, Kingston, ON)

activites@crm.umontreal.ca,

<http://www.CRM.UMontreal.CA/geometry/>

30–May 17 Concentration Period on the Langlands Programme for Function Fields (CRM, Université de Montreal, Montreal)

activites@crm.umontreal.ca,

<http://www.CRM.UMontreal.CA/geometry/>

MAY 2002

3–5 AMS Eastern Section Meeting (CRM, Université de Montréal)

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

19–25 Canadian Number Theory Association Conference (CRM, Université de Montréal, Montréal)

<http://www.math.mcgill.ca/cnta7>

24–26 Annual Meeting, Canadian Society for History and Philosophy of Mathematics / Société canadienne d'histoire et

MAI 2002

de philosophie des mathématiques (University of Toronto)
<http://www.cshpm.org>

24–28 25th Anniversary Meeting of the Canadian Mathematics Education Study Group (CMESG), (Queen's University, Kingston, ON)
david.reid@acadiau.ca

27–June 10 Computational Lie Theory (CRM, Université de Montreal, Montreal)
activites@crm.umontreal.ca,
<http://www.CRM.UMontreal.CA/geometry/>

JUNE 2002**JUIN 2002**

3–8 Abel Bicentennial Conference 2002 (University of Oslo, Oslo, Norway)
<http://www.math.uio.no/abel/conference/index.html>

4–13 Linear Algebra Workshop (Bled, Slovenia)
luzius@mathstat.dal.ca, <http://www.ijp.si/ftp/pub/stop/law/>

6–8 CAIMS 2002 (University of Calgary)
 Samuel Shen: shen@maildrop.srv.ualberta.ca

10–15 Algebraic Transformation Groups (CRM, Université de Montreal, Montreal)
activites@crm.umontreal.ca,
<http://www.CRM.UMontreal.CA/geometry/>

15– 17 CMS Summer Meeting / Réunion d'été de la SMC (Université Laval, Québec, Québec)
<http://www.cms.math.ca/Events/summer02/>

17–21 Seventh International Conference on p-adic Functional Analysis, (University of Nijmegen, The Netherlands)
<http://www.sci.kun.nl/math/p-adic2002/>

17–21 Householder Symposium on Numerical Linear Algebra (Peebles Hydro Hotel, near Edinburgh, Scotland)
p.a.knight@strath.ac.uk, <http://www.maths.strath.ac.uk/matrix/>

24–28 Special Activity in Analytic Number Theory (Max Planck Institute, Bonn) moroz@mpim-bonn.mpg.de

25–28, 8th International Conference on Applications of Computer Algebra (Volos, Greece)
<http://www.uth.gr>, <http://www.volos-m.gr>

JULY 2002**JUILLET 2002**

1–5 Congrès à la memoire de Jacques-Louis Lions (College de France, Paris)
<http://acm.emath.fr/congres-jllions/>

7–12 The 5th Americas Conference in Differential Equations and Nonlinear Dynamics (University of Alberta, Edmonton)
<http://www.math.ualberta.ca/mli/americas.htm> email: mli@math.ualberta.ca

8–19 SMS-NATO ASI: Normal Forms, Bifurcations, and Finiteness Problems in Differential Equations (Université de Montréal, Montréal)
<http://www.dms.umontreal.ca/sms>

15– Aug.10 Conference on Representation Theory of Algebras and Related Topics (ICRA X) (The Fields Institute for Research in Mathematical Sciences, Toronto)
icrax@fields.utoronto.ca

22–30 44th International Mathematical Olympiad (University of Strathclyde, Glasgow, UK)

22–Aug 16 Atlantic Association for Research in the Mathematical Sciences Summer School (Memorial University of Newfoundland, St. John's)
<http://www.math.mun.ca/aarms/SS2002> or email Edgar Goodaire (edgar@math.mun.ca)

31–Aug. 3 Novel Kananaskis Symposia on Pressure Distribution
www.wcb2002.com, info@wcb2002.com

AUGUST 2002**AOÛT 2002**

2–3 Banff Symposia on Skeletal Muscle
www.wcb2002.com, info@wcb2002.com

3–10 Logic Colloquium 2002, ASL European Summer Meeting (WestfWilhelms-Universität, München, Germany)
<http://www.math.uni-muester.de/LC2002>

4–9 World Congress of Biomechanics
www.wcb2002.com, info@wcb2002.com

7–12 Marsden Workshop on Geometry, Mechanics and Dynamics (The Fields Institute for Research in Mathematical Sciences, Toronto)
marsden60@fields.utoronto.ca

15–18 The International Conference on Mathematical Biology (a satellite meeting of ICM-2002)(Guangxi Normal University, Guilin, Guangxi Province, PR China)
gxnu@public.gpltt.gx.cn

20–28 International Congress of Mathematicians (Beijing, China) <http://icm2002.org.cn/>

25–Sept 1 40th International Symposium on Functional Equations (Gronow, Poland)
isfe40@uz.zgora.pl <http://www.isfe40.uz.zgora.pl>

SEPTEMBER 2002**SEPTEMBRE 2002**

Sept.– Dec.2002 Set Theory and Analysis Program, (The Fields Institute for Research in Mathematical Sciences, Toronto)
<http://www.fields.utoronto.ca/maillist/>

23–28 Workshop on Categorical Structures for Descent and Galois Theory, Hopf Algebras and Semiabelian Categories, (The Fields Institute for Research in Mathematical Sciences, Toronto)
tholen@mathstat.yorku.ca

DECEMBER 2002**DÉCEMBRE 2002**

8–10 CMS Winter Meeting / Réunion d'hiver de la SMC (Marriott Hotel, Ottawa, Ontario)
 Monique Bouchard: meetings@cms.math.ca

JANUARY 2003**JANVIER 2003**

Jan – Aug. Thematic Program on Automorphic Forms,
(The Fields Institute for Research in Mathematical Sciences,
Toronto)

Automorphic@fields.utoronto.ca

JUNE 2003**JUIN 2003**

CMS Summer Meeting / Réunion d'été de la SMC
(University of Alberta, Edmonton, Alberta)

Monique Bouchard: meetings@cms.math.ca

DECEMBER 2003**DÉCEMBRE 2003**

CMS Winter Meeting / Réunion d'hiver de la SMC
(Simon Fraser University, Burnaby, British Columbia)

Monique Bouchard: meetings@cms.math.ca

SUMMER 2004**ÉTÉ 2004**

CMS Summer Meeting / Réunion d'été de la SMC
(Dalhousie University, Halifax, Nova Scotia)

Monique Bouchard: meetings@cms.math.ca

DECEMBER 2004**DÉCEMBRE 2004**

CMS Winter Meeting / Réunion d'hiver de la SMC
(McGill University, Montréal, Québec)

Monique Bouchard: meetings@cms.math.ca

RATES AND DEADLINES 2002 / 2002 TARIFS ET ÉCHÉANCES

Net rates/Tarifs nets	Institutional Members Membres institutionnels	Corporate Members Membres organisationnels	Others Autres
Full Page	\$ 225	\$ 420	\$ 560
3/4 Page	\$ 205	\$ 385	\$ 510
1/2 Page	\$ 135	\$ 255	\$ 340
1/4 Page	\$ 80	\$ 150	\$ 200
Inserts: maximum 4 pages	\$ 180	\$ 340	\$ 450
Surcharges apply for prime locations - contact notes-ads@cms.math.ca Des suppléments sont applicables pour des places de choix - communiquer avec notes-ads@smc.math.ca			

Issue/Numéro:	Deadline/Date limite:
February/février	December 1 décembre
March/mars	January 15 janvier
April/avril	February 15 février
May/mai	March 15 mars
September/septembre	July 1 juillet
October/octobre	August 15 août
November/novembre	September 15 septembre
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