



CMS NOTES^{de la} SMC

DU BUREAU DU VICE-PRÉSIDENT

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Suggestions de conférenciers canadiens pour le CIM 2010 :

Depuis le printemps 2007 le comité des Affaires Internationales de la SMC monte un dossier de candidatures de chercheuses et chercheurs canadiens dont les contributions récentes peuvent leur valoir une nomination comme conférencier plénier ou conférencier de session au Congrès International des Mathématiciens de 2010 (CIM 2010). Le comité a formé des sous-comités dans tous les domaines des sessions du CIM. Ces comités ont formulé des recommandations et un comité général prépare le dossier final. La synchronisation est parfaite car l'Union mathématique internationale vient maintenant de lancer un appel de suggestions aux organisations adhérentes. Le Canada est représenté à l'Union mathématique internationale par le Conseil National de Recherches du Canada (CNRC), lequel délègue le travail au comité des Affaires Internationales.

Candidature canadienne pour le CIM 2014 :

Le Canada avait posé sa

Quelques nouvelles brèves d'intérêt national et provincial

candidature pour tenir le Congrès International des Mathématiciens en 2010 à Montréal. Mais l'Union mathématique internationale a retenu la candidature de Hyderabad aux Indes 2010. C'est donc là que le prochain CIM se tiendra en août 2010.

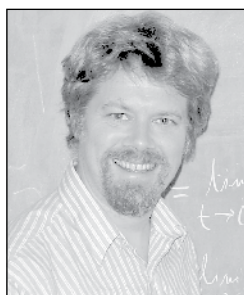
Mais la candidature canadienne n'est pas morte! François Lalonde a mobilisé la communauté mathématique québécoise et mis sur pied un comité qui préparera la candidature de Montréal pour le Congrès International des Mathématiciens de 2014. Bruno Rémillard s'est porté volontaire comme organisateur local du congrès, alors que Christiane Rousseau pilotera la préparation du dossier de la candidature, comme elle l'avait fait de main de maître pour le CIM 2010. François Lalonde, Bernard Hodgson et Jean-Marie de Koninck feront partie du comité d'organisation. Et comme pour le CIM 2010, la candidature sera présentée par le CNRC; le Palais des Congrès de Montréal accueillera l'événement. Le travail a déjà commencé. Ainsi le choix de dates est arrêté et le budget est présentement en préparation conjointement avec le CNRC et le Palais des Congrès. La communauté sera tenue au courant de l'évolution de la candidature et

les organisateurs espèrent que, comme lors de la candidature précédente, elle participera massivement. Rappelons enfin que deux villes canadiennes ont été l'hôte du CIM par le passé : Toronto en 1904 et Vancouver en 1974.

Accromath :

Sans connaître le tirage de la revue π in the sky publiée par le PIMS, tous seront d'accord qu'une telle revue est une idée formidable pour susciter l'intérêt des jeunes pour les mathématiques et les sciences! Ainsi l'Institut des sciences mathématiques, le maître d'oeuvre, et le Centre de recherches mathématiques ont joint leurs forces pour en créer un pendant francophone. La revue Accromath s'adresse avant tout aux étudiants et enseignants des écoles secondaires et des cégeps et son quatrième numéro vient de paraître.

La règle maîtresse du Comité éditorial est évidemment l'accessibilité pour le public visé. Déjà, après quatre numéros, le spectre des articles s'étend des mathématiques pures à des applications journalières : des introductions à la cardinalité et à la dénombrabilité ou encore au problème de l'empilement des sphères côtoient des dossiers sur la cartographie et les mathématiques du cœur. Les articles sont souvent étoffés par des encarts de nature historique



Reviewing Books

"Why should 'to referee' mean to judge (in secret, anonymously) a paper or book submitted for publication, while 'to review' means to judge (openly, over your name) a paper or a book that recently appeared?"

P. R. Halmos, *I Want to be a Mathematician*

Our esteemed colleague Peter Fillmore, who has been Book Review Editor for the NOTES since 2003, decided to give up the position in December 2007. He had been a co-editor-in-chief during 1998-2002. We thank Peter for his insightful advice and cooperation. We enjoyed working with him. We welcome Keith Johnson, another esteemed colleague, who has kindly agreed to be our Book Review Editor from January 2008.

Mentioning this, our thoughts have turned to the question of book reviews in general and mathematical book reviews in particular. The ostensible reason to read a book review is to decide whether to buy the book; but if this was the only reason, most mathematical book reviews would find their natural homes in rather specialized journals. After all, those who are actually in need of advice about whether or not to buy the latest text in wiffle theory are presumably also among the readers of the Pangaian Journal of Wiffle Theory (Series B). So why not run the review there?

In fact many of us enjoy reading a thoughtful, well-written review, whether or not it pertains to our specialty. This is especially true in the case of a book authored by a well known expert and reviewed by an equally well known mathematician. For example, look at the review [1] by Paulo Ribenboim of André Weil's book *Number Theory, an approach through history from Hammurapi to Legendre*. Also there are many illuminating reviews written by André Weil himself. His review [2] of L. S. Mahoney's *The mathematical career of Pierre de Fermat is a good example of his style and erudition*. Reviewing Gotthold Eisenstein's *Mathematische Werke*, volumes I and II, Weil presents an interesting account of Eisenstein's life.

One can obtain from a well-written review a good idea of the current status of research in an area, or even a bird's-eye view of a subject. Consider, for example, several complex variables. The review [3] by Steven G. Krantz of R. C. Gunning's three volumes on *Introduction to Holomorphic Functions of Several Variables* begins with a good overview of the subject. If you want to have a good idea of what the theory of elliptic functions is about, read Carlos Moreno's review [4] of David Masser's book on this subject. It begins with a historical account and discusses the state of the subject while commenting on the chapters in Masser's book.

While brief reviews are often prosaic for lack of space, in the hands of a good writer even this difficult prose form can shine. Perhaps the greatest master of this style was the late Gian-

Carlo Rota, who wrote many gems of the genre for *Advances in Mathematics*. Some of these are collected in [5], of which we quote one *in extenso*:

J. Neukirch, *Class Field Theory*, Springer, New York 1986.

At last, an exposition of class field theory that does not presume of the reader full knowledge of several unwritten (and never to be written) books. The chilling elegance of this presentation will give you goose pimples.

Now *that* is a review!

References:

- [1] Bulletin of AMS, 13 (1985) 173-182.
- [2] Bulletin of AMS, 79 (1973) 1138-1142.
- [3] Bulletin of AMS, 25 (1991) 205-215.
- [4] Bulletin of AMS, 84 (1978) 456-461.
- [5] G-C Rota, *Indiscrete Thoughts*, Birkhauser, Boston, 1997

NOTES DE LA SMC

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La critique d'ouvrages scientifiques

« Pourquoi fait-on une distinction entre “examiner”, au sens de juger (en secret, de façon anonyme) un article ou un livre soumis pour publication, et “critiquer”, au sens de juger ouvertement (en signant ses critiques) un article ou un livre qui vient de paraître? » [traduction libre]

P. R. Halmos, *I Want to be a Mathematician*

Notre estimé collègue Peter Fillmore, qui a dirigé la chronique de critique d'ouvrages mathématiques pour les NOTES depuis 2003, a quitté ce poste en décembre 2007. Il a également cumulé les fonctions de rédacteur en chef adjoint de 1998 à 2002. Merci à Peter de ses précieux conseils et de sa collaboration. Ce fut un plaisir de travailler avec lui. Nous souhaitons la bienvenue à Keith Johnson, un autre de nos estimés collègues, qui a pris la relève en janvier 2008.

À ce sujet, nos pensées se tournent naturellement vers la critique de livres en général, et la critique d'ouvrages mathématiques en particulier. On lit généralement une critique de livres pour savoir si on doit acheter un ouvrage ou non. Toutefois, si c'était là l'unique raison, la plupart des critiques d'ouvrages mathématiques trouveraient place naturellement dans des revues plutôt spécialisées. “Après tout, les personnes qui s'interrogent sur la pertinence d'acheter ou non les derniers ouvrages sur la théorie des trucmuches sont sans doute abonnées au Journal Pangaien de la théorie des trucmuches (série B). Alors pourquoi ne pas y publier de telles critiques?”

En fait, nous sommes nombreux à apprécier les critiques réfléchies et bien écrites, qu'elles soient dans notre domaine de spécialité ou non. Cela est particulièrement vrai dans le cas d'un ouvrage signé par un expert bien connu et critiqué par un mathématicien tout aussi reconnu. Prenons par exemple la critique [1] de Paulo Ribenboim de l'ouvrage d'André Weil sur la théorie des nombres, selon une approche historique d'Hammurapi à Legendre. André Weil a d'ailleurs lui-même rédigé de nombreuses critiques exceptionnelles. Sa critique [2] de *The Mathematical career of Pierre de Fermat* de L. S. Mahoney est un exemple parfait de son style et de son érudition. Dans une critique de *Mathematische Werke* de Gotthold Eisenstein (volumes I et II), Weil brosse en outre un portrait intéressant de la vie d'Eisenstein.

Une bonne critique donne généralement une idée assez claire de l'état de la recherche dans un domaine, ou même un tour d'horizon d'un domaine. Prenons plusieurs variables complexes par exemple. La critique [3] de Steven G. Krantz des trois volumes de R. C. Gunning (*Introduction to Holomorphic Functions of Several Variables*) s'ouvre sur un bon aperçu du sujet. Pour se faire une idée de la théorie des fonctions elliptiques, je suggère la critique de Carlos Moreno [4] d'un ouvrage de David Masser sur le sujet. La critique commence

par un résumé historique et traite de l'état du sujet, tout en commentant chacun des chapitres du livre de Masser.

Si les critiques brèves sont souvent prosaïques par manque d'espace, ce style difficile peut être admirable sous la plume d'un bon rédacteur. L'un des grands maîtres de cet art est sans doute feu Gian-Carlo Rota, qui a signé de nombreux bijoux du genre pour *Advances in Mathematics*. Certaines de ses critiques ont été colligées [5], mais nous en signalons une complète particulièrement brillante :

J. Neukirch, *Class Field Theory*, Springer, New York 1986.

Voilà enfin un exposé de la théorie du corps de classes qui ne tient pas pour acquis que le lecteur maîtrise plusieurs ouvrages non écrits (et qui ne le seront jamais). L'élégance rafraîchissante de cette présentation a de quoi donner des frissons...

Ça, c'est de la critique!

Références :

- [1] *Bulletin of AMS*, 13 (1985) 173-182.
- [2] *Bulletin of AMS*, 79 (1973) 1138-1142.
- [3] *Bulletin of AMS*, 25 (1991) 205-215.
- [4] *Bulletin of AMS*, 84 (1978) 456-461.
- [5] G-C Rota, *Indiscrete Thoughts*, Birkhauser, Boston, 1997.



Letters to the Editors Lettres aux Rédacteurs

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

Les rédacteurs des NOTES acceptent les lettres en français ou anglais portant sur un sujet d'intérêt mathématique, mais ils se réservent le droit de les comprimer. Les lettres acceptées paraîtront dans la langue soumise. Les lecteurs peuvent nous joindre au bureau administratif de la SMC ou à l'adresse suivante : notes-lettres@smc.math.ca.

Superfractals

Michael F. Barnsley

Cambridge University Press, 2006

ISBN 978 0521 844932 US\$ 35

Review by Robert Rosebrugh, Mount Alison University

This book is a successor to the author's 'Fractals Everywhere' which was first published nearly twenty years ago. A reviewer in the AMS Bulletin said of that book: "Barnsley's book gives insight (in a rather idiosyncratic way) into topics not existing in the standard mathematics undergraduate course... My personal feeling about it is positive, but with a number of strong reservations." That's a good summary of this reviewer's take on his new book.

"Superfractals" is dense both physically - nice quality paper makes it thinner and heavier than most 450pp books - and more importantly in its mathematical content.

The cover claims that the book is accessible to anyone 'with some knowledge of calculus'. That's more than a bit of a stretch given the depth and pace of material throughout, beginning in the first chapter. The text of the book is certainly accessible to anyone familiar with the material in a decent real analysis and topology course, and who has a strong interest in dynamical systems. If the publisher is referring to the illustrations, which are stunning, then of course this book is accessible to anyone sighted.

Overall the author's style is engaging, though a bit too enthusiastic for the taste of a professional mathematician. The text has much discursive material - almost enough to provide adequate intuition. It doesn't read at all like a mathematics textbook. That said, there is considerable reliance on the definition, theorem, proof style so a mathematician will imagine that the author is usually telling the truth. I skipped most of the proofs in the later material, but those earlier in the book were convincing.

The first chapter contains a rather rapid introduction to much standard material on metric spaces and topology. Some of the common examples appear, but the author's purpose is not to prepare the way for functional analysis or algebraic topology: the interesting examples are not those that appear in your favourite introduction to topology. Rather, the interesting examples arise from the 'code spaces', topologized sets of infinite words on a finite alphabet, used here as parameters, and from the Hausdorff metric on subsets of a metric space.

By the second chapter the reader is launched into projective geometry and applications at similarly brisk pace.



However, for someone with a good undergraduate education in mathematics the material can be followed quite easily if read carefully. This careful read is rewarded with insight provided by many colour illustrations.

The third and fourth chapters introduce Iterated Function System (IFS) semigroups of transformations, their 'attractors' and the pictures associated with them. This requires a light introduction to some basic modern algebra that is further lightened by the application to pictures. Later on the IFS semigroups act on measures, and finally the geometries of transformation groups are considered. This is followed by the introduction of 'fractal tops' and the pictorially interesting idea of 'colour stealing'. These two have many applications.

The last chapter introduces the 'Superfractals' of the title. They are the attractors of certain families of IFS applied stochastically. The theory here is relatively recent and is not for the faint-hearted, but the illustrations become commensurately more rewarding.

Though most of the material is presented cleanly and clearly, some of the notation becomes heavier than would seem necessary. One wonders what that hypothetical first year calculus trained reader will make of lengthy concatenations of calligraphic and blackboard bold upper case letters.

This is a book that contains a great deal of serious mathematics, but it is not a put-down to suggest that the best thing about it is the illustrations. This reviewer remains skeptical of claims that fractals, even when supersized, actually explain much about the biological structures they mimic, but there is no doubt that the visual results are striking.

At its list price (well under \$50), this book is already a bargain, but it was recently selling for well under half that from a well-known on-line book-seller. That would make it a very worth while addition to the the library of any of us.

A Mathematical Autobiography

by Saunders MacLane

AK Peters 2005 xvi+358 pages

ISBN 978 1 56881 150 5 US\$ 39

Review by John MacDonald, University of British Columbia

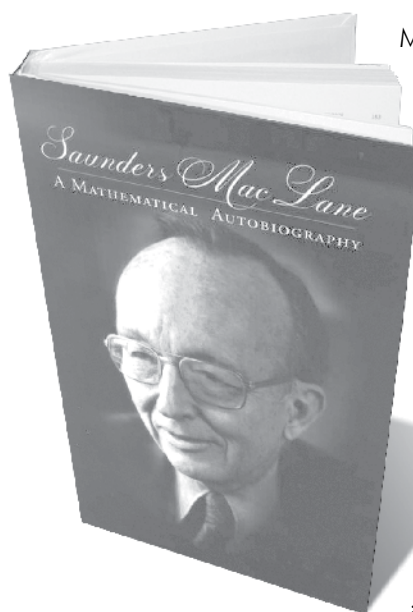
Saunders MacLane was one of the most influential mathematicians of the 20th century and was, together with Samuel Eilenberg, a co-creator of Category Theory. In his autobiography Saunders reveals details of his early life and education as well as those of the relationships that were so critical in the development of his career. His work with Eilenberg, Freyd and Lawvere has had a profound effect on the direction taken by mathematics since the middle of the last century.

I was his graduate student in the early sixties but I knew very little about his early life or other influences which shaped his character. Like most of his other graduate students I was aware of and read Saunders' early papers in topology and category theory but found that he was a very private person who did not speak about his personal life, at least during the first years that I knew him.

I am grateful to the editor of this autobiography for bringing forth the wealth of historical material and the viewpoint of MacLane himself on his life, his mathematics and the people around him. As one of the proofreaders I am pleased to see that a number of omissions and mathematical misprints have been corrected. It has been suggested to me by Steve Awodey that there is still the opportunity for someone to write a mathematical biography of MacLane. I would personally be very interested to see such a biography presenting the unfolding of category theory during his lifetime.

It is probably not so well known that Saunders organized a large informal off the record series of talks on category theory in Vancouver at the time of the International Congress of Mathematicians in Vancouver in 1974. He went to many meetings in Canada during his career. One of the most recent was the International Conference on Category Theory held in Vancouver in 1997. Unfortunately he was not well enough to attend a similar meeting in Vancouver in 2004, but did send his greetings to the group through his wife Osa.

Saunders was closely connected with many Canadian mathematicians. At least two of his students are at Canadian universities, namely Peter Zvengrowski at the University of Calgary, and myself at the University of British Columbia. He also had very close connections to students of Samuel Eilenberg such as Miles Tierney and William Lawvere who have spent much time in Canada as well as



Michael Barr, a Harrison student and a well known and influential mathematician from McGill.

Irving Kaplansky was the first student of MacLane, receiving his Ph.D. at Harvard in 1941. Kaplansky came to Harvard from the University of Toronto on the first Putnam fellowship.

Kaplansky himself has had a tremendous influence on American mathematics as a professor

at Chicago and later as AMS president and director of MSRI. David Eisenbud, a much later student of Saunders, also held the same positions in the AMS and in MSRI. David was influential on the U.S. side in obtaining NSF support for BIRS in Alberta. David Eisenbud has written a very interesting personal account of his interactions with MacLane in the Preface to this Autobiography.

I first met Saunders as a graduate student in Chicago in 1961 when I took a course with him in category theory. He became my thesis advisor, then my mentor and finally a lifetime friend. I have had the privilege of proofreading *Homology, Categories for the Working Mathematician* and now to proofread and finally to review his autobiography.

WANTED: Books for Review **RECHERCHÉS : Livres pour critiques littéraires**

Have you written a book lately?

Would you like to see it reviewed in the CMS Notes? If so, please arrange to have a review copy sent to our Book Review Editor.

Vous avez récemment écrit un livre?

Vous aimeriez une critiques littéraires de celui-ci dans les Notes de la SMC? Si oui, veuillez faire parvenir une copie au rédacteur des critiques littéraires.

Keith Johnson
Department of Mathematics and Statistics
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Hesiod's Anvil: Falling and Spinning Through Heaven and Earth

by Andrew J. Simoson

Dolciani Mathematical Expositions #30

The Mathematical Association of America, 2007

xv + 324 pp. US \$48.95

ISBN 978 0 88385 336 8

Many of the examples we use in first and second year calculus classes make simplifying assumptions yielding physically impossible results. For example the notorious ladder sliding down a wall and the searchlight sweeping a shore related rates problems involve, in extreme cases, velocities greater than the speed of light. Andrew Simoson has written an entertaining volume which, among many other things, adds enough detail to show what really happens in these problems. The book is constructed around a central theme of falling and spinning motions and many of the examples analyzed are drawn from the nonscientific literature (Dante, Verne, H.G.Wells, Poe and Hesiod of the title (a Greek poet (~700BC). The anvil figures in his answer to the question "how high is heaven?") These are interleaved with personal anecdotes resulting in both a good sourcebook for undergraduate teaching and a pleasant and informative read.

Chases and Escapes: The Mathematics of Pursuit and Evasion

by Paul J. Nahin

Princeton University Press 2007

xiii + 253 pp. US \$24.95

ISBN 978 0 691 12514 5

Determining the path followed by a predator in pursuit of a (usually slower) prey is a classical problem in differential calculus and it and its many variations are the subject of this book. The variations are systematically explored and what starts out as a collection of differential equations to be solved soon draws in results from numerical analysis, game theory and probability. Some readers may be troubled by the obvious military aspect of much of the material, and the author does not shy away from this (to the extent that he includes Randall Jarrell's poem "Death of the Ball Turret Gunner"). The result, however, is a coherent treatment of a topic interesting to the professional mathematician but still accessible to the student.

Elliptic Functions

by J.V. Armitage and W.F. Eberlein

London Mathematical Society Student Texts #67

Cambridge University Press 2006

402 pp. Cdn \$103.95

ISBN 978 0 52178078 0

Elliptic functions play an important role in many branches of mathematics and some knowledge of them should be part of every mathematician's toolkit. The first 6 chapters of this volume, by the late W.F. Eberlein, develop the theory of these functions by inverting integrals arising from differential equations. This begins, as in the classic book of Greenhill (*Applications of Elliptic Functions*, 1892, still available from the University of Michigan Library reprints), with the exact solution of the simple pendulum. The theme here is to explore how Abel would have developed the theory of Jacobi elliptic functions if he had not died at age 26. The remaining 6 chapters, by J.V. Armitage, expand the scope of the book to include the Weierstrass elliptic functions and elliptic integrals and to give examples of applications of the theory in geometry, algebra, number theory and mechanics.

Algebraic and Analytic Geometry

by Amon Neeman

London Mathematical Society Lecture Notes #345

Cambridge University Press 2007

ix + pp 420 \$80.00

ISBN 978 0 521 70983 5

Almost all the recent introductory books in algebraic geometry (of which there are many, given the increasing prominence of the subject) have been of one of two sorts: those which present only the classical theory, stopping before 1950, and those that give an introduction to the modern language of schemes. The former have the disadvantage of leaving the results of the last half century inaccessible, while the later demand a huge initial investment in time and effort before returning any geometric results at all. Amon Neeman's book, although leaning towards the second camp, has tried to bridge this gap. His strategy is to only consider algebraic geometry over \mathbb{C} , which simplifies the foundations (locally ringed spaces are avoided), and to organize the book around the proof of one important theorem, Serre's GAGA (*Géométrie algébrique et géométrie analytique*). Students (final year undergraduates and beginning graduate students) with some knowledge of complex analysis will find this an interesting and useful introduction to algebraic geometry, as will their instructors.

From Forty Years Ago

Walter Whiteley at York University unearthed an interesting and perceptive report on school geometry issued over 40 years ago. It was commissioned by the Ontario Curriculum Institute, established in 1963 by a number of bodies, in particular the Ontario Teachers' Federation and Ontario Department of Education. In 1966, it was folded into the fledgling Ontario Institute for Studies in Education. During its short existence, the Institute produced seventeen reports that, in the words of its coordinator of development, K.F. Prueter, "aroused an interest in the aims and objectives of the education process unparalleled in the history of education in Ontario". One of these, on geometry, appeared in 1967.

The geometry report is posted on the web at
<http://wiki.math.yorku.ca/index.php/References>.

A committee of nine, chaired by George Duff of the University of Toronto, was charged to examine the place of geometry in the K-13 curriculum and make recommendations. The membership consisted of five active and retired mathematics teachers and three university professors. The inclusion of Donald Coxeter and Warwick Sawyer from the University of Toronto and of D.H. Crawford from Queen's University guaranteed that the resulting document would be of high quality. It was a balanced report that took account of the characteristics of the learning patterns of the young, that recognized the diversity of the student body, and was moderately innovative. It set a good benchmark for us today in assessing the changes that have occurred over the last forty years and the distance still to be travelled in finding a proper place for geometry in the syllabus.

While the Committee recognized and approved of the increased integration of mathematical topics that was then occurring, it was concerned that geometry was being squeezed out. Part of this was a reaction against the emphasis on Euclidean geometry and its significance as an avatar of the axiomatic approach and logical deduction. It was necessary to look beyond Euclid, and to ensure that logic does not overshadow creativity and intuition. Mathematics can be seen in many ways, as a language for structured relationships and for science, as being widely applicable, as being part of culture and for its aesthetic appeal. These have special force for geometry. The committee noted that if the study of mathematics is to flourish in the schools, the manner and matter of its presentation should be firmly rooted in the history and growth of mathematics itself, . . . the nature and limitations of mathematics at its various stages should be analyzed and related to the limitations of age that are naturally present in the classroom. We should take advantage of the immense increase in psychological and logical perception of the present to render more accessible to future generations the knowledge so slowly and painfully gained by those of the past.

In rejecting an over-reliance on formal methods, the committee also rejected the notion that visual and intuitive work is only for the lowest grades. "Visual and intuitive work are indispensable at every level of mathematics and science, both as an aid to clarification of particular problems, and as a source of inspiration, of 'new ideas'. The greatest care should be taken to draw out the mental constructions of the student, whether rudimentary or advanced, formal or informal. . . . We

recommend rather the intuitive 'interest' approach, through problems significant to the student." Deduction has its place, but the assumptions upon which propositions are based need to be selected pragmatically taking the experiences of the students into account. While one should avoid highly sophisticated issues of consistency, nevertheless, they saw that there could be in Grade 13 discussion of geometries other than Euclidean.

The model of learning adopted by the committee was influenced by the work of Piaget. They saw three stages in the presentation of geometry to the young: (1) an emphasis on visual and tactile experiences, with a small amount of vocabulary; (2) observations, measurements and comparison, "amounting to very elementary analysis"; (3) observations, constructions, generalization of particular to general cases, enunciation of general properties. The success of the curriculum depends on respecting the child's stage of development so that memorization does not substitute for comprehension, and on stimulating motivation. Following Dienes, they delineated three types of motivation: the exhilaration of experiencing mathematical power, curiosity and a sense of autonomy.

What is the situation they faced? The educational qualifications necessary for any career were bound to increase; it was increasingly difficult to recruit good teachers with greater access to alternative careers; with the rapid changes that were then occurring, continuous professional development of teachers would be necessary. The dilemma was that the existing syllabus was too weak for able students and too challenging for the weaker ones. Accordingly, a modern version of the one-room school was needed where students could learn how to work independently and can proceed at their own pace. We needed to achieve a situation in which students taking more advanced topics had mastered the prerequisites, where lessons consisted less of teachers telling and "more of students reading books and attacking problems for themselves, with teachers giving occasional aid on particular difficulties". In an appendix, the committee described two British schools where such a regime was in effect, Marlborough College, a private boys' boarding school, and Holloway School, a comprehensive school. In both schools, the pupils were streamed, but could move across streams on the basis of their performance.

One paragraph is worth quoting in its entirety:

Progress in mathematics depends on the firm grasp of a relatively small number of concepts. To an outsider, mathematics may seem to consist of an enormous mass of complicated details. Mathematicians, and successful students of mathematics, do not attempt simply to memorize these details. Rather they grasp the central ideas, from which the details flow in a natural and relatively simple way. If, however, students are dragged into a branch of mathematics before they have enough background to understand its central ideas, this economy of thought is denied them. Having no momentum of their own, they have to have every small step taken for them by their textbooks and their teachers. Textbooks swell to enormous sizes. . . . Teachers increasingly complain that the syllabus (treated in this manner) cannot be crammed into the time available.

Nor does the work achieve very much. The students . . . are unable to recall the mass of apparently unrelated detail that has so painstakingly been set before them. If they are tested by examination, the examiner has to soften his questions and scale his marks to ensure that an acceptable number pass. *The whole process is contrary to the human dignity of examiners, teachers, and students.* [italics mine]

Under the new regime, the main function of tests and examinations would be diagnostic, with questions pitched to different levels of skill and understanding. The system needed to be more discriminating in meeting the needs and abilities of pupils, whether to be able to read and appreciate a paragraph containing mathematics, or to meet certain technical demands. Evaluation should be constructive and record what steps the pupil has to achieved. Finally, for school graduation, every student should have a certain level of mathematical competence and experience.

That students were capable of learning a great deal under the right conditions is evidenced by the wartime experience of having to train large numbers of people in a short period of time in some pretty technical areas. "Many teachers were in fact amazed at the keen interest in mathematics by Service personnel during the war. The approach there was usually from the practical problem to the mathematics involved, and the problem secured the interest. This is in marked contrast to the Greek view." (Quoted from an article by W. Flemming in *The Mathematical Gazette*, 1955.)

Thus, geometry instruction should begin with the handling of real objects, be interesting and purposeful, excite interest in solving problems, recognize nonverbal abilities of some students and take account of nonacademic predilections of many of them. Students should get a feel for Euclidean space; motion geometry is a good place to begin. Textbooks should be more focussed and take account that topics can be developed simultaneously and students can work through at their own pace.

Specific proposals for primary students: K-6

Geometry should be introduced early, with the focus on shape, size and measurement. Children should learn by doing and have access to lots of toys, games and materials. Under the topic of shapes, children will become familiar with standard 3-dimensional as well as 2-dimensional objects, learn about points, lines and angles, construct 2- and 3-dimensional figures with various materials, learn about isometries, construct and study curves, study projections and shadows, and if appropriate learn some topology. The topics having to do with size include estimation of volumes, areas and lengths, experimentation with rotations, reading and construction of block, bar, circle and line graphs, compare sizes and look at the relationship between shapes and their shadows or projections. Measurement involves the use of arbitrary and standard units, angles, representation of data using graphs, polar and cartesian coordinates, measurement of transformations, constructions with straightedge, compasses, set square and protractor, scale drawing, formulae for volume and area, variation of area and volume with length, Euler's formula for polyhedra. These topics are somewhat interlaced and a flow diagram suggested how they might be related; generally, shape and size preceded

measurement. Each topic is discussed in some detail with a number of examples.

Specific proposals for intermediate students: 7-10

Informal and coordinate geometry are treated in all four years; vectors are introduced in the second year, trigonometry in the third and transformation in the fourth. However, this regime is not completely rigid and some topics will be foreshadowed.

Informal geometry covers classification of rectilinear figures, properties of triangles, reflections, mensuration, congruence of triangles, basic straightedge and compasses constructions, experimental work to discover some Euclidean results, analysis and depictions of solid figures, geometry on a sphere, properties of a circle. Students will learn to plot points in 2- and 3-dimensions, study the geometry of linear equations and inequalities, and finally move to circles and spheres. Vector geometry treats vectors as ordered pairs and triples, as well as of ordered line segments, addition and multiplication by a scalar, magnitude, resolution and projection, standard basis, dot product, applications to physics and trigonometry. As for transformations, "the student's knowledge of motion geometry (reflection geometry) can be integrated with his knowledge of analytic geometry at this stage to form a basis for the study of matrices." Specifically, translations, rotations, reflections and dilatations are studied. The intermediate set of recommendations conclude with suggestions for students in the four-year technical, vocational and commercial programs. As expected, the thrust is in the practical direction, so that vectors, for example, are exploited in navigation problems.

Specific proposals for senior students: 11-13

In grade 11, students study analytic geometry in three dimensions (3 wks), vectors in three dimensions (3 wks), trigonometry (3 wks), transformations (1 or 2 wks), quadratic functions and their graphs (3 wks) and geometry of circles (3 wks) with work on polyhedra, lattices and synthetic geometry of circles (including the nine-point circle and the Euler line) if time permits. The grade 12 syllabus would include analytic geometry in three dimensions (4 wks), vectors (3 wks, including linear dependence and bases), trigonometry (3 wks, including polar coordinates, amplitude and phase), transformations in 3 dimensions (2 wks) and geometry of conics (4 wks) with topology and convexity and linear programming as additional topics. Finally, in grade 13, students would have 4 weeks of linear algebra, 3 weeks on vectors spaces (4- and n-dimensional) and 3 weeks on axioms and geometries (including non-euclidean geometry); topology, polyhedra and crystallography would constitute additional topics. Further supplementary topics involve calculus ("an early acquaintance with intuitive differential calculus is highly advantageous to the advanced student. The [grade 11] stage is by no means too early for this purpose. . . . We wish to emphasize the graphical, qualitative and intuitive aspects of calculus, with the aim of fostering the student's ability to visualize."), quadric surfaces, geometry of complex numbers and projective and non-Euclidean geometry. Polyhedra and crystallography would constitute additional topics, along with quadric surfaces, geometry of complex numbers and projective and non-Euclidean geometry. Taking on board the, then, fairly recent blast of Jean Dieudonné against geometry, the committee

still saw a place for deductive geometry as a tool for developing and refining spatial intuition, the basic nature of geometry and the “ease and scope of deduction” and the role of geometry in applications.

The concluding chapter of the report discussed philosophical and implementation issues, and emphasized that curriculum involved both content and process, and would reflect the aims of education held in a particular society. It called for a continuing dialogue with educators and the public and a regular and coherent program of professional development. “Experience shows that teachers cannot easily make or test innovations without the co-operative support of principals, administrators, inspectors and school trustees.” Accordingly, there should be annual seminars for these groups, as well as for those involved in teacher formation so that they are kept current with developments.

Perhaps the optimistic view of the intellectual potential of students and their teachers that infused the report is a sign of the period in which it was written; if this could be unlocked, then a renaissance would ensue in the schools. The key is to begin with activities that are down-to-earth and in some sense natural to arouse the curiosity of the students, to avoid a

lockstep regime in the schools and allow students to proceed at their own pace and to recognize that many students are capable of quite advanced work. Undoubtedly, the committee would be appalled at the deadening hand of testing and the reluctance to challenge pupils that characterizes much of our current endeavour.

Looking forty years down the road from the report, we can ask what in fact has been accomplished. While elementary pupils now learn about some three-dimensional solids and, if they are lucky, have the opportunity to play with manipulatives, they hardly move beyond taxonomy. While the committee would not have foreseen modern software packages that allow for student exploration, investigation with these tools is still not possible in most schools and geometry continues to languish as a vibrant part of the syllabus. Synthetic and analytic geometry, vectors and trigonometry hardly venture beyond the basics, and so students do not have the opportunity to see them as vehicles of mathematical power and ways into interesting mathematical structures.

IN MEMORIAM: JAMES EDWARD TOTTEN *(Thompson Rivers University, Kamloops, B.C.)*



With the sudden death of Jim (James Edward Totten) on March 9, 2008, the Canadian Mathematics community lost an individual who was dedicated to mathematics education and to mathematical outreach. Jim was born August 9, 1947 in Saskatoon and raised in Regina. After obtaining his Bachelor's degree at the University of Saskatchewan, Jim went on to

earn a Master's and PhD degree in Mathematics from the University of Waterloo, after which he joined the faculty at Saint Mary's University in Halifax. One of us (Robert) first got to know Jim well when he and Jim shared an office at the University of Saskatchewan while Jim was visiting there during the 1978-1979 academic year. While that was a long cold winter outside, Jim's active interest and enthusiasm for mathematics and the teaching of mathematics helped make the year a memorable one. The next year Jim took up a position at the then Cariboo College, where he remained as it evolved into the University College of the Cariboo and eventually Thompson Rivers University, from which he retired as Professor Emeritus in 2007.

During his years in Kamloops, Jim was a mainstay of the Cariboo contest, an annual event which brought students in to the college and which featured a keynote speaker, often drawn from Jim's list of mathematical friends. This once included an invitation to Robert, which featured a talk on public key encryption mostly memorable for the failure of technology at a key moment, much to Jim's amusement.

Jim became a member of the CMS in 1981, and joined the editorial board of *Crux* in 1994. When Bruce was looking for someone to succeed him as Editor-in-Chief, there was no doubt in his mind whom to approach. Bruce spent a week in Kamloops staying at Jim's home and working with Jim and Bruce Crofoot to smooth the transition. Jim's attention to detail and care was appreciated by all, particularly those contributing copy that was carefully checked, as Robert gladly confirms from his continued association with Jim through the Olympiad Corner, an association which continued to the end.

Jim loved his Oldtimers' hockey and was an avid golfer. When not playing hockey or golf, he was active with the Kamloops Outdoors Club. Jim was never just a participant, always an active volunteer.

Jim is survived by his loving wife of 40 years, Lynne, his son Dean, daughter-in-law Christie and granddaughter Mikayla of Sechelt, his father Wilf Totten of Edmonton, sister Judy Totten of Regina, sister Josie Laing (Neil) of Onoway, sister-in-law Marilyn Totten of Red Deer, sister-in-law Constance Ladell (David Dahl) of Kamloops, many cousins, family friends and mathematical colleagues. All will miss his enthusiasm and energy.

The Jim Totten Scholarship has been established at Thompson Rivers University, to which contributions may be made through the Thompson Rivers University Foundation.

As remembered by two of his colleagues from *Crux* with MAYHEM,

Bruce Shawyer and Robert Woodrow

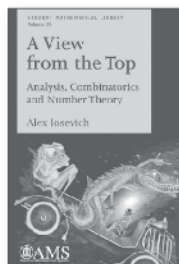
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et, évidemment, des exercices! Et déjà la revue a attiré un correspondant français, Jean-Paul Delahaye dont la chronique dans *Pour la science* est un exemple de vulgarisation.

Le Comité éditorial a aussi choisi de faire appel dès le premier numéro à un graphiste; en avril 2007, Accromath remportait une médaille de bronze en graphisme dans la prestigieuse compétition mondiale des *Summit Creative Awards* où étaient présentées des milliers d'oeuvres en provenance de 23 pays. Mais allez juger par vous-mêmes : <http://accromath.ca/>. Le succès de la revue remplit évidemment de fierté les auteurs et le Comité éditorial. Il leur donne aussi un nouveau casse-tête : avec plus de 1100 abonnés et un tirage de 5000 copies, les coûts de production deviennent menaçants. Mais c'est un bien agréable casse-tête.

La revue reçoit un soutien financier du réseau MITACS et de la SMC.

Les Grandes Conférences du CRM :

En avril 2006, François Lalonde, directeur du Centre de recherches mathématiques, et Christiane Rousseau organisaient la première d'une série de conférences s'adressant au grand public. Le but de cette série nommée *Les Grandes Conférences du CRM* est d'amener ce public curieux à comprendre les développements récents les plus marquants en sciences mathématiques en en révélant la beauté et la puissance dans

un langage accessible à tous.

La première de cette série était donnée par Jean-Marie De Koninck de l'Université Laval. Les organisateurs avaient évidemment le trac : est-ce que le public serait au rendez-vous? Ils n'avaient pas trop à craindre. De Koninck est une personnalité bien connue (Ordre du Canada en 1994 et de l'Ordre national du Québec en 1999, Prix Adrien-Pouliot 2004 de la SMC) et il venait alors d'être choisi «Scientifique de l'année 2005» par l'équipe des *Années lumières*, l'émission scientifique de la radio de Radio-Canada. La salle de plus de 250 places était comble. Et la popularité de cette série ne s'est pas démentie depuis. L'auditoire contient certes des étudiants et collègues de la communauté mathématique montréalaise, mais ceux-ci n'en constituent plus la majorité. C'est maintenant le grand public qui constitue le cœur de l'audience, un public enthousiaste qui montre un intérêt marqué pour les enjeux scientifiques de notre société. Le quotidien *Le Devoir* a d'ailleurs consacré un article à la une à la dernière Grande Conférence prononcée par Étienne Ghys et qui portait sur l'effet papillon.

Jusqu'à ce jour ces conférences se sont données à Montréal. Les autres conférences ont été données par Ivar Ekeland (UBC), Bart de Smit (Leiden), Jean-Paul Delahaye (Lille), Francis Clarke (Lyon), Étienne Ghys (Lyon) et la prochaine le sera pas Tadashi Tokieda (Cambridge).

CALL FOR NOMINATIONS / APPEL DE MISES EN CANDIDATURE

Prix Adrien-Pouliot Award

2008

Nous sollicitons la candidature de personnes ou de groupe de personnes ayant contribué d'une 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 au site Web de la SMC : www.cms.math.ca/Prix/info/ap. 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 2008**. Veuillez faire parvenir vos mises en candidature en six exemplaires à l'adresse ci-dessous :

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 using the Nomination Form available from the CMS Web site at: www.cms.math.ca/Prizes/info/ap. 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 last year can renew this nomination by simply indicating their wish to do so by the deadline date. In this case, only updating materials need be provided as the original has been retained. Nominations must be received by the CMS Office no later **April 30, 2008**. Please send six copies of each nomination to the address given below.

The Adrien Pouliot Award / Le Prix Adrien-Pouliot

Canadian Mathematical Society / Société mathématique du Canada | 577 King Edward | Ottawa, Ontario K1N 6N5

CALL FOR NOMINATIONS / APPEL DE MISES EN CANDIDATURE

The CMS Research Committee is inviting nominations for three prize lectureships. These prize lectureships are intended to recognize members of the Canadian mathematical community.

Le Comité de recherche de la SMC lance un appel de mises en candidatures pour trois de ses prix de conférence. Ces prix ont tous pour objectif de souligner l'excellence de membres de la communauté mathématique canadienne.

Prix *Coxeter-James* Prize Lectureship

2009

The Coxeter-James Prize Lectureship recognizes young mathematicians who have made outstanding contributions to mathematical research. The selected candidate will deliver the prize lecture at the Winter Meeting.

The recipient shall be a member of the Canadian mathematical community. Nominations may be made up to ten years from the candidate's Ph.D: researchers having their PhD degrees conferred in 1998 or later will be eligible for nomination in 2008 for the 2009 Coxeter-James prize. A nomination can be updated and will remain active for a second year unless the original nomination is made in the tenth year from the candidate's Ph.D.

Le prix Coxeter-James rend hommage aux jeunes mathématiciens qui se sont distingués par l'excellence de leur contribution à la recherche mathématique. La personne choisie prononcera sa conférence à la Réunion d'hiver.

Cette personne doit être membre de la communauté mathématique canadienne. Les candidats sont admissibles jusqu'à dix ans après l'obtention de leur doctorat : ceux qui ont obtenu leur doctorat en 1998 ou après seront admissibles en 2008 pour le prix Coxeter-James 2009. Toute mise en candidature est modifiable et demeurera active l'année suivante, à moins que la mise en candidature originale ait été faite la 10^e année suivant l'obtention du doctorat.

Prix *Jeffery-Williams* Prize Lectureship

2010

The Jeffery-Williams Prize Lectureship recognizes mathematicians who have made outstanding contributions to mathematical research. The prize lecture will be delivered at the Summer Meeting. The recipient shall be a member of the Canadian mathematical community. A nomination can be updated and will remain active for three years.

Le prix Jeffery-Williams rend hommage aux mathématiciens ayant fait une contribution exceptionnelle à la recherche mathématique. La personne choisie prononcera sa conférence à la Réunion d'été. Cette personne doit être membre de la communauté mathématique canadienne. Toute mise en candidature est modifiable et demeurera active pendant trois ans.

Prix *Krieger-Nelson* Prize Lectureship

2010

The Krieger-Nelson Prize Lectureship recognizes outstanding research by a female mathematician. The prize lecture will be delivered at the Summer Meeting. The recipient shall be a member of the Canadian mathematical community. A nomination can be updated and will remain active for two years.

Le prix Krieger-Nelson rend hommage aux mathématiciennes qui se sont distinguées par l'excellence de leur contribution à la recherche mathématique. La lauréate prononcera sa conférence à la Réunion d'été. La lauréate doit être membre de la communauté mathématique canadienne. Toute mise en candidature est modifiable et demeurera active pendant deux ans.

The deadline for nominations is June 30, 2008. Nominations should be submitted electronically, preferably in PDF format, to research-prizes@cms.math.ca. Nominators should ask at least three referees to submit letters by **September 30, 2008**, either electronically to the preceding address, or directly to the Chair of the CMS Research Committee at the mailing address below.

La date limite de mise en candidature est le 30 juin 2008. Faites parvenir les propositions de candidature, préférablement en format PDF, à prix-recherche@smc.math.ca. La personne qui présente un candidat doit demander à au moins trois personnes de faire parvenir une lettre de recommandation, au plus tard le 30 septembre 2008, par voie électronique à l'adresse ci-dessus, ou à la présidence du Comité de la recherche de la SMC à l'adresse postale ci-dessous.

Some arms-length referees are strongly encouraged. Nomination letters should list the chosen referees, and should include a recent curriculum vitae for the nominee, if available.

Les lettres d'indépendants sont fortement recommandées. Le dossier de candidature comprendra la liste des personnes choisies à titre de référence ainsi qu'un curriculum vitae récent du candidat, dans la mesure du possible.

Prof. Edward Bierstone
Chair, Research Committee / Président, comité de recherches
CMS Prize Lectureships / Prix de conférence de la SMC
Department of Mathematics, University of Toronto
40 St. George Street
Toronto, Ontario M5S 2E4

The 2008 Krieger-Nelson and Jeffery-Williams Prizes will be presented at the Second Canada-France Congress 2008 in Montréal, Québec, June 1-5.
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The 2007 reports from the standing committee chairs are in the language provided by the chair. The Advancement in Math Competitions, Electronic Services Committee, Nominating Committee, Publications, Research, Student, and Women in Mathematics committee reports will appear in the May issue of the CMS Notes.

Les rapports 2007 des présidents de comités permanents sont livrés dans la langue de rédaction d'origine. Les rapports du Comité sur l'avancement des mathématiques, du Comité des services électroniques, du Comité de mise en candidature, du Comité des publications, du Comité de la recherche, du Comité étudiant et du Comité des femmes en mathématiques paraîtront dans le numéro de mai des Notes de la SMC.



EXECUTIVE DIRECTOR'S ANNUAL REPORT

Graham P. Wright (University of Ottawa)

A Difficult and Surprising Year

General:

In January 2007, Rachel Cunningham joined the Executive Office staff as the Administrative Assistant. The Membership and Publications Assistant, Liliane Sousa, left in October to become an independent

contractor and Tina Shore, the CMS Database Clerk, also left in October to take a position at Entrust. I wish to thank Liliane for her seven years of dedicated service and Tina for her significant contributions since 2004. Laura Alyea was hired as the Membership and Publications Assistant in October and, in December; Denise Charron took over as the Membership and Publications Agent.

The staff changes were achieved with only a minimal impact on the Society's administrative operations. I would like to acknowledge and thank all of the Executive Office staff for their help and support in 2007.

The 2 for 1 membership offer that has been in effect for the past several years continues to attract new members and the retention rate for these new members is very good. NSERC rules now allow membership fees to be paid from an NSERC grant and many members have taken advantage of this change in policy. In addition to the work to maintain existing members and to attract new members, significant efforts are being taken to maintain and, where possible, increase the number of subscriptions to each of the Society's periodicals. CRUX with MAYHEM has the potential for many more subscribers and a campaign to promote this journal to high schools and colleges is underway.

The agreement with the Statistical Society of Canada (SSC) was renewed in June 2007 and the CMS Executive Office will continue to provide membership and related services for the SSC to 2010. Thanks to the efforts of Alan Kelm, the CMS Web Services Manager, an on-line registration system was developed for the SSC 2007 Annual Meeting and the new system was launched in February. The system worked very well and is being modified for the 2008 SSC meeting which will be a joint meeting with the Société Française de Statistique.

In June 2007, Eddy Campbell, Jason Brown, Ram Murty, Edwin Perkins, and Bruno Rémiard ended their terms on the Executive

Committee. Effective August 31, 2007, David Rodgers and Edward Barbeau ended their terms as chairs of the Electronic Services Committee and the Mathematical Competitions Committee, respectively, and David Promislow (Invested Funds Committee), Rick Jardine (Research Committee) and Gerda de Vries (Women in Mathematics Committee) completed their terms as chairs at the end of 2007. I wish to thank all of these members and colleagues for all their help and guidance.

Finances and Fund Raising:

The past year has been a very difficult one financially. The significant raise in the value of the Canadian dollar has resulted in foreign exchange revenues disappearing. The total foreign exchange revenue was \$180,000 in 2005 and \$100,000 in 2006.

A large increase in postal rates for subscribers outside North America came into effect mid-way through 2007. This increase had not been anticipated and, together with the loss of foreign exchange revenues and other factors which negatively impacted subscription revenues, resulted in the Board of Directors reluctantly agreeing to further increase the 2008 rates for the Canadian Journal of Mathematics and the Canadian Mathematical Bulletin from those that had been approved by the Board at the December 2006.

A major financial concern for the CMS is the current level of the financial subsidy for each semi-annual meeting. An article describing the situation appeared in the November issue of the Notes and clearly the CMS is facing a number of important challenges for continuation of the meetings program in its current form. The matter was discussed and options considered at the 2007 Winter Meeting. The possibility of only having one meeting per year (June or December) was raised but the strong view of the membership is that two meetings each year are very beneficial for the health of the Canadian mathematical community. In early 2008, a survey of meeting organizers and participants will be undertaken. The Finance and Executive Committees will be reviewing the matter in April 2008 and recommendations to reduce the level of financial subsidy presented to the Board in June 2008.

Prior to 2007, the Finance Committee had the responsibility for reviewing the Society's Endowed Funds and Contingency Fund investments. These investments are pooled and, since 1993, have been managed by TD Capital Asset Management. The Invested Funds Committee is now charged with the responsibility

of reviewing the Society's investment portfolio. The Committee not only has the responsibility for ensuring that the Principles for the Preservation of Capital are followed but also for determining the amounts that are allocated from the capital for each Endowed Fund for annual expenditures. Currently, the investment strategy for the CMS Endowed Funds and the Contingency Fund are the same and Committee is considering if the strategy should remain the same.

In 2006, the Society decided to invest in a significant fund raising campaign and Mark Bowman was hired as the CMS Development Coordinator. Some successes were achieved in 2006 and the fund raising goal for 2007 although significant was realistic. Fund-raising and promotional materials and were developed and requests for support sent to existing and potential donors. Some successes were achieved (further details can be found in the Report from the President and Advancement of Mathematics Committee) but the 2007 fund-raising goal was not achieved. Although fund-raising remains a crucial activity for the Society, the program is being re-configured for 2008. It is hoped that we can build on the successes to-date but with a different and less costly approach.

The CMS is very grateful and appreciative to all those corporations, foundations, provincial governments, research institutes, and members who supported our activities in 2007.

Publishing Activities:

Thanks to all the editors and others involved, all Society's periodicals appeared on-time or ahead of schedule. Jim Totten's term as Editor-in-Chief of CRUX with MAHEM was due to end at the end of 2007. Vlasav Linek has been appointed to take-over from Jim. To permit a smooth transition of responsibilities, Jim and Valsav were to be Editors-in-Chief for the first six months of 2008 after which Vlasav would become the Editor-in-Chief. Jim Totten died suddenly on March 9, 2008. The Society is indebted to Jim for his valuable and considerable work as Editor-in-Chief of CRUX with MAYHEM. He was a long-time friend of the Society and he will be long remembered.

The past year has also been a successful for the Society's other publications activities.

- The CMS Book Series with Springer now has 27 books in print with two released in 2007. It is anticipated that three will appear in 2008.
- A Taste of Mathematics (ATOM) - Volume VII (Problems of the Week) was published in 2007.
- "Summa Sumarium", the first book in the CMS Treatises in Mathematics was published in 2007. This is a joint publishing initiative with A.K. Peters Inc. Two books are scheduled for publication in 2008.
- The CMS also has a co-publishing agreement with the Mathematical Association of America for a series of books in *problem-solving*. The first two books in this series should be published in 2008. One will feature a wealth of problems posed by Murray Klamkin and the second "The Alberta High School Mathematics Competition" written by Andy Liu.

Meetings:

The 2007 Summer Meeting was hosted by the University of

Winnipeg and was a joint meeting with MITACS. The 2007 Winter Meeting was hosted by the University of Western Ontario. Thanks go to the Meeting Directors: Don Dawson (Carleton), Fereidoun Ghahramani (Manitoba) for the 2007 Summer Meeting and to Rick Jardine (Western) for the 2007 Winter Meeting, to the Chairs for Local Arrangements; to Abba Gumel (Manitoba) and David Riley (Western), and to the many session organizers for all their efforts in making both meetings extremely successful. I also wish to thank MITACS for all their help with the 2007 joint meeting, particularly Arvind Gupta, Olga Stolompovich and Jo-Anne Rockwood.

Although the CMS Executive Office, particularly Gertrud Jeewanjee, Meeting Coordinator, provides a considerable level of assistance, all CMS meetings depend on the support of the host university and the research institutes. The CMS is very grateful to all those who helped make our 2007 meetings extremely successful.

The Second Canada France Congress will take place in Montréal in June 2008. Nassif Ghoussoub, Octav Cornea, François Loeser and Christiane Rousseau have put together a very impressive program and the 2008 Summer Meeting will be a special and memorable event.

Thanks:

At the 2007 Summer Meeting in Winnipeg, I was surprised and privileged to receive the 2007 Distinguished Service Award. I was shocked and "speechless" to learn that the Society had also given me the extraordinary honor of renaming the Award in 2008 as the "Graham Wright Award for Distinguished Service". It has been my pleasure to serve as the Society's Executive Director since 1979 and to be fortunate to collaborate with so many friends and colleagues within the mathematical community. I sincerely thank the Society, particularly Thomas Salisbury, Eddy Campbell and the Executive Committee and Board of Directors for a most unexpected recognition and tribute.

RAPPORT ANNUEL 2007 DU DIRECTEUR ADMINISTRATIF

Graham P. Wright (Université d'Ottawa)

Une année difficile et surprenante

Généralités :

En janvier 2007, Rachel Cunningham s'est jointe à l'équipe du bureau administratif en tant qu'adjointe administrative. En octobre dernier, Liliane Sousa, responsable de l'adhésion et des publications, nous a quittés pour se lancer à son compte et Tina Shore, commis à l'adhésion et aux publications, a accepté un poste chez Entrust. Je remercie Liliane pour ses sept années de loyaux services et Tina pour son importante contribution au bureau depuis 2004. Laura Alyea est notre nouvelle commis à l'adhésion et aux publications depuis octobre, et Denise Charron, notre responsable de l'adhésion et des publications depuis décembre.

Ce roulement de personnel a eu des répercussions minimales sur les activités administratives de la Société. J'aimerais remercier tous les membres du personnel du bureau administratif de leur aide et de leur soutien en 2007.

Notre offre de deux années d'adhésion pour le prix d'une, en vigueur depuis plusieurs années déjà, continue d'attirer de nouveaux membres, que nous réussissons à garder dans une très bonne proportion. De nombreux membres ont profité du fait que le CRSNG permet désormais l'utilisation de ses subventions de recherche pour payer l'adhésion à une société professionnelle. Outre les efforts déployés pour conserver nos membres et en attirer de nouveaux, nous nous efforçons de maintenir et même d'augmenter, si possible, le nombre d'abonnements à chacune des publications de la Société. *CRUX with MAYHEM* pourrait encore attirer de nombreux abonnés; une campagne de promotion de cette revue est d'ailleurs en cours dans les écoles secondaires et les collèges.

En juin 2007, nous avons renouvelé notre entente avec la Société statistique du Canada (SSC); notre bureau continuera donc à offrir divers services administratifs (adhésion, etc.) à la SSC jusqu'en 2010. Un nouveau système d'inscription en ligne a été développé par Alan Kelm, responsable des services web de la SMC, pour l'assemblée générale annuelle 2007 de la SSC. Lancé en février 2007, le système a très bien fonctionné et sera modifié en vue du congrès 2008 de la SSC, organisé de concert avec la Société française de statistique.

En juin 2007, Eddy Campbell, Jason Brown, Ram Murty, Edwin Perkins et Bruno Rémillard ont terminé leur mandat au Comité exécutif. Le 31 août 2007, David Rodgers et Edward Barbeau ont aussi fini leur mandat respectif à la présidence du Comité des services électroniques et du Comité des concours mathématiques, et David Promislow (Comité des investissements), Rick Jardine (Comité de la recherche) et Gerda de Vries (Comité des femmes en mathématiques) ont aussi terminé leur mandat de président ou présidente à la fin de 2007. Je remercie tous ces membres et collègues de leur aide et de leurs conseils.

Finances et campagne de financement :

La dernière année a été très éprouvante financièrement. La hausse considérable de la valeur du dollar canadien a éliminé nos recettes provenant du taux de change. Ces recettes s'élevaient à 180 000 \$ en 2005 et à 100 000 \$ en 2006.

Une forte hausse des tarifs postaux pour l'extérieur de l'Amérique du Nord est entrée en vigueur au milieu de l'année 2007. Cette augmentation imprévue, jumelée à la perte de recettes liées au taux de change et à d'autres facteurs qui ont fait diminuer les recettes d'abonnement, ont forcé le conseil d'administration à augmenter, bien à contrecœur, les tarifs d'abonnement 2008 du *Journal canadien de mathématiques* et du *Bulletin canadien de mathématiques* par rapport aux prix adoptés par le conseil en décembre 2006.

L'une des grandes préoccupations financières de la SMC est le montant actuel de financement accordé à chacune de nos réunions semestrielles. Comme on pouvait le lire dans un article à ce sujet publié dans les *Notes* de novembre, il est clair que la SMC a de gros obstacles à surmonter si elle veut maintenir le rythme des rencontres actuelles. Nous avons discuté de la situation et envisagé diverses options à la Réunion d'hiver 2007. La possibilité de ne tenir qu'une Réunion par année (en juin ou en décembre) a été soulevée, mais les membres ont souligné avec grande insistance l'importance de tenir deux rencontres

par année pour la vitalité de la communauté mathématique canadienne. Au début de 2008, nous ferons un sondage auprès des organisateurs et des participants de nos Réunions. Le Comité des finances et le Comité exécutif en étudieront les résultats en avril 2008 et recommanderont au conseil, en juin 2008, des moyens de réduire le financement nécessaire.

Avant 2007, l'examen des investissements dans le fonds de dotation et le fonds de prévoyance de la Société était confié au Comité des finances. Ce sont des investissements regroupés qui sont gérés par Gestion de Placements TD Inc. depuis 1993. C'est désormais le Comité des investissements qui gère le portfolio de la Société. Ce comité est chargé de veiller au respect des principes de préservation du capital, mais aussi de déterminer les montants du capital à investir dans chaque fonds de dotation pour les dépenses annuelles. En ce moment, la stratégie appliquée au fonds de dotation et au fonds de prévoyance est la même, mais le comité pourrait revoir cette décision.

En 2006, la Société a décidé d'investir dans une grande campagne de financement et a embauché Mark Bowman en tant que Coordonnateur du développement dans cette optique. Cette campagne a connu un certain succès en 2006, et l'objectif de financement de 2007, quoiqu'appréciable, était réaliste. Du matériel de promotion et du matériel de collecte de fonds a été mis au point, et des demandes d'appui ont été envoyées à nos donateurs actuels et à des donateurs potentiels. Malgré les résultats obtenus (pour de plus amples renseignements, consulter le rapport du président et celui du Comité pour l'avancement des mathématiques), nous n'avons pas atteint notre objectif de financement en 2007. Si les activités de financement demeurent cruciales pour la Société, le programme sera remanié en 2008. Nous espérons pouvoir profiter des efforts déployés jusqu'à présent, tout en adoptant une stratégie différente et moins coûteuse.

La SMC remercie sincèrement les entreprises, les fondations, les gouvernements provinciaux, les instituts de recherche et les membres qui ont soutenu ses activités en 2007.

Activités de publication :

Grâce à nos équipes de rédaction et à toutes les autres personnes qui prennent part à ces activités, tous les périodiques de la Société ont paru à la date prévue ou même avant. Le mandat de Jim Totten comme rédacteur en chef du *CRUX with MAYHEM* s'étant terminé à la fin de 2007, Vaslav Linek a accepté de le remplacer à ce poste. Pour assurer une transition en douceur, Jim et Vaslav devaient se partager le poste durant la première moitié de 2008, après quoi Vaslav ferait cavalier seul. Malheureusement, Jim Totten est décédé subitement le 9 mars dernier. La Société lui est très redevable de son travail comme rédacteur en chef du *Crux with MAYHEM*. Ami de la Société depuis de nombreuses années, il occupera longtemps une place dans nos pensées.

Les autres activités de publication de la Société ont aussi très bien fonctionné en 2007.

- La collection *Ouvrages de mathématiques de la SMC*, en partenariat avec Springer, compte maintenant 27 titres, dont deux nouvelles parutions en 2007. On

attend trois nouveaux titres en 2008.

- Le volume VII (*Problems of the Week*) de la collection ATOM (Aime-t-on les mathématiques) est paru en 2007.
- *Summa Sumarium*, premier volume de la collection Traités mathématiques de la SMC, a été publié en 2007. La publication se fait en partenariat avec A.K. Peters Inc. Deux traités devraient paraître en 2008.
- La SMC a également signé une entente de publication en partenariat avec la Mathematical Association of America pour une collection d'ouvrages de résolution de problèmes. Les deux premiers titres de cette collection devraient paraître en 2008. Dans l'un de ces ouvrages, Murray Klamkin proposera un large éventail de problèmes, et le second titre, signé Andy Liu, portera sur le concours mathématique albertain pour élèves du secondaire.

Réunions :

La Réunion d'été 2007, tenue à l'Université de Winnipeg, a été organisée en collaboration avec le Réseau MITACS. La Réunion d'hiver 2007 s'est pour sa part tenue à l'Université Western Ontario. Je tiens à remercier les directeurs de Réunion Don Dawson (Carleton) et Fereidoun Ghahramani (Manitoba) pour la Réunion d'été et Rick Jardine (Western) pour la Réunion d'hiver; les présidents du Comité de logistique locale; Abba Gumel (Manitoba) et David Riley (Western), ainsi que les nombreux organisateurs de session de leur travail incroyable, qui a assuré le succès retentissant de ces rencontres. Merci également au Réseau MITACS de son travail dans le cadre du congrès conjoint 2007, et un merci particulier à Arvind Gupta, à Olga Stolompovich et à Jo-Anne Rockwood.

Même si le bureau administratif – en particulier Gertrud Jeewanjee, coordonnatrice des Réunions – intervient beaucoup dans l'organisation des Réunions, toutes dépendent du soutien de l'établissement hôte et des instituts de recherche. La SMC doit une fière chandelle à toutes les personnes qui ont contribué à l'immense succès de ses Réunions en 2007.

Le deuxième Congrès Canada-France se déroulera à Montréal en juin 2008. Nassif Ghoussoub, Octav Cornea, François Loeser et Christiane Rousseau ont composé un programme épatant, qui fera de la Réunion d'été 2008 un événement mémorable.

Remerciements :

À la Réunion d'été 2007, à Winnipeg, j'ai eu l'immense surprise et le privilège de recevoir le Prix pour service méritoire 2007. Aussi étonné que bouche bée, j'ai aussi appris que la Société me faisait l'extraordinaire honneur de renommer ce prix « Prix Graham-Wright pour service méritoire » à compter de 2008. Je suis très heureux de servir la Société à titre de directeur administratif depuis 1979, et je m'estime choyé d'avoir pu collaborer avec de si nombreux amis et collègues de la communauté mathématique. Je remercie sincèrement la Société, en particulier Thomas Salisbury, Eddy Campbell ainsi que le Comité exécutif et le Conseil d'administration, de cet hommage tout à fait inattendu.

EDUCATION COMMITTEE REPORT

Chair: Joseph Khoury (Ottawa)

Education is one of the main activities of any professional academic society like the CMS. The Society has established many programs and awards aimed at promoting Mathematics as a subject of practical and scientific interest. The Education Committee, through these programs, worked hard in 2007 to ensure that a considerable share of the Society's activities are devoted to math education and to public awareness of Mathematics.

The Committee is mainly involved with the selection of the Adrien Pouliot Award and CMS Excellence in Teaching Award winners, choosing judges for the Canada-Wide Science Fair, the Halton Peel Data Fair, finding and supporting organizers for the education sessions in both meetings and overseeing the provincial grants applications.

The Committee met at the 2007 Summer Meeting in Winnipeg and at the 2007 Winter Meeting in London. Between the two meetings, some discussions were also conducted by e-mails. The Summer Meeting focused on the Adrien Pouliot Award, the changes to the Canada-Wide Science Fair rules for sponsoring awards, the Halton Peel Data Fair and the CMS presence at provincial teachers conferences. The Winter Meeting followed up on the actions taken on the latter file, on the Excellence in Teaching Award, the organizing of the education sessions for the 2008 summer and winter meetings and the provincial grants competitions.

The committee's activities throughout 2007 can be divided in two categories:

1. Regular Business.

- The CMS Excellence in Teaching Award was presented to Dr. Brian Forrest (Waterloo) at the Summer Meeting in Winnipeg. Dr. Forrest gave an interesting talk on his experience with teaching an on-line course at University of Waterloo.
- At the Summer Meeting in Winnipeg, the Committee selected Dr. Richard Nowakowski of Dalhousie University as the 2007 recipient of the Adrien Pouliot Award. Dr. Nowakowski was presented the award at the Winter Meeting Banquet in London.
- The education session at the Summer Meeting in Winnipeg was organized by Abba Gumel (Manitoba) and Randall Pyke (SFU). The topic was "The Impact of Mathematics in Industry". The session included a very interesting panel discussion on that issue.
- The Education session at the Winter Meeting in London was organized by Georges Gadaniadis (Western). The theme was on imagination and creativity. Many speakers demonstrated innovative ways to stimulate the imagination and creativity of students in mathematics.
- The Committee approved an amount of \$3,450.00 in provincial grants. Successful applicants were from the provinces of Alberta, Manitoba, Newfoundland, Ontario, Prince Edward Island and Quebec.
- The 2007 Canada-Wide Science Fair took place in Truro, Nova Scotia. The CMS sponsored only the senior award

due to the Youth Sciences Foundation's new structure of award sponsorship. The CMS judge was Peter Filmore from Dalhousie and the CMS prize of \$1000 was awarded to Bill Pang (Grade 11, Sir Winston Churchill Secondary School, BC) for his project "From the Orthic Triangle".

- The 2007 Halton Peel Data Fair was held in Sheridan College, Oakville. David Matthews from Waterloo agreed to judge for the CMS, but he could not make the trip due to a winter storm. The CMS sponsored the first prize in the senior division and the winner was Kayleigh Roberts from L.B. Pearson high school.
- The Education Committee Chair was one of referees for the CMS/NSERC Math in Moscow competitions. The winners of the 2007 fall session competition were: Jean-Philippe Labbé and Yu Wang and the winners of the 2007 winter session competition were: Alex Wright and Micheal Lipnowski.
- The Education Committee Chair was on the selection committee for the CMS Excellence in Teaching Award. The winner will be presented at the 2008 Summer Meeting in Montreal. The Education Committee was involved in an effort to solicit more nominations for the CMS Excellence in Teaching Award. As a result, more nominations were received in 2007 than in the previous year.

2. Other Business

- At the 2007 Summer Meeting, the Committee discussed the possibility of a stamp to promote Canadian mathematics. However, to date nothing has materialized.
- At the 2006 Winter Meeting in Toronto, the Committee felt that more should be done to reach out to teacher's associations across Canada. The issue was discussed in more detail at the Summer Meeting in Winnipeg where an action plan was developed. At the Winter Meeting in London, the Chair reported that a CMS booth was manned at a teachers' conference in Ottawa. The organizers were kind enough to waive the fees, so there was practically no cost to the CMS. The Chair reported that the CMS presence was very well received among high school teachers. The Committee approved similar actions across Canada.
- Following a recommendation from the Selection Committee for the CMS Excellence in Teaching Award, the Education Committee reviewed the Terms of References for the award at the Winter Meeting and more discussions are to follow.

ENDOWMENT GRANTS COMMITTEE REPORT

Chair: Karl Dilcher (Dalhousie)

The main task of the Endowment Grants Committee is to adjudicate proposals for projects that are requesting financial support from the CMS Endowment Grants Competition. Projects which are funded must contribute to the goals of the CMS and to the broader good of the mathematical community.

The Committee was allocated \$16,000 for the 2007 competition. Eighteen applications had been submitted, of which seven were funded. Given the very limited allocation, only two applications could be funded in full, while the others received partial funding,

and only for one year. The total allocated amount was awarded. All applicants have been notified by the CMS Executive Office in Ottawa.

- The successful applications were as follows:
- Contributing to the costs of a championship of mathematical games for school children which involves thousands across Quebec and will bring hundreds to the Laval University campus.
- Expanding the successful "Math Circles" program (lectures and activities for talented high school students) beyond metropolitan Halifax.
- A French-language web-based mathematics competition out of Moncton, with mathematical problems at varying levels, expecting to reach thousands of students.
- An enrichment program for high school students in the Ottawa area.
- The Canadian version of an international contest-game for students in grades 3-12; the Endowment Grant will help with the expansion to more cities.
- A contest of mathematical performances for students in grades 4-6.
- Developing investigative and modeling problems for grade 12 mathematics teachers in Ontario.

More details on the successful applications can be found on the CMS website: www.cms.math.ca/Grants/EGC/

Reports on projects funded in the past can also be found at this site.

After very few applications had been received in 2006, the 2007 competition attracted a record high number of applications. Once again, the projects showed a great degree of diversity; they came from eight provinces, showed a good gender and linguistic distribution, and had target groups ranging from grade 3 elementary school to university and teacher education.

FINANCE COMMITTEE REPORT

Chair: Kenneth Davidson (Waterloo)

The role of the Finance Committee is to scrutinize the budget and other financial documents of the Society, to question the Management and Executive Committee of the Society about reasons for various financial decisions, and to provide advice to the Board of Directors regarding these matters.

This year was a difficult one for the Society, and it was necessary to bring forward a deficit budget. The Finance Committee studied several key areas and made a number of recommendations to somewhat ameliorate the deficit. In the end, we came to the conclusion that there are special circumstances that led to the deficit this year and next. We felt that there was good reason to believe that the budget would get back on track, and that we can weather the current situation.

I will briefly mention a few key issues:

Publications: This is the Society's one serious source of steady income. This year, with the Canadian dollar rising rapidly

to attain par with the US dollar, the income from foreign subscriptions received in US dollars was below the expectations made a year ago. This is combined with recent increases in foreign shipping costs, and increases in the number of pages per volume. Management recommended an increase in subscription rates, and a motion from the Finance Committee increased those rates somewhat more. We are attempting to make a fair increase that will cover our increased costs without driving away more subscribers.

Meetings: The Society runs two large annual meetings. This is expensive, especially considering that the overall costs include one full-time employee whose major duties are the running of these meetings. Meetings have run much more smoothly and consistently because of this central oversight, but it is costly. The small grants and the registration fees do not cover all of the costs. The Finance Committee recommends that the Executive consult with the membership with a view to increasing registration fees to cover more of these costs. The issue is that fees for math conferences are generally very low compared to many other academic disciplines, and there is resistance to paying fees that actually cover expenses. Nevertheless, there has been a trend towards increased fees that is likely to continue.

Executive Director: Graham Wright will be stepping down as Executive Director at the end of 2008 and a new Executive Director has been appointed who will assume the required duties in 2009. There is an anticipated overlap of six months in order for the new person to learn the ropes. This extra salary is a one-time expense.

Fundraising: The Society has embarked on an ambitious plan to raise funds. It costs money to raise money, and at this point, we have not been sufficiently successful to cover these start-up costs. The Executive plans to continue this effort, but the cost/benefit needs to be monitored.

Education: The Society has a significant number of activities aimed at mathematics for school children. These are important activities for the Society, but they should be run on a self-funding basis. This is an area where there has been successful fundraising in the past. The loss of the PromoScience grant was a factor in this year's deficit. It is hoped that this funding will be recovered, and that these activities can be supported by fundraising.

INTERNATIONAL AFFAIRS COMMITTEE REPORT

Chair: Christiane Rousseau (Montréal)

The International Affairs Committee (IAC) is the liaison committee which serves as the voice of Canadian mathematics within the International Mathematical Union (IMU). It is officially a committee of the National Research Council (NRC). The NRC provides most of the funding used to support the participation of Canadian mathematics within the IMU. Countries which are members of the International Mathematical Union are divided into five groups. Canada belongs to Group V, the highest group, which consists of only 10 countries.

During the year 2007 the Committee has taken care of one large dossier.

1. Strategy to increase the number of Canadian speakers at ICM 2010 (International Congress of Mathematicians)

At recent International Congress of Mathematicians, the number of Canadian speakers who were lecturers was always very low in comparison to the stature of Canadian mathematics. We expect that the Secretary of the IMU will launch an official call for input of the National Organizations to the Program Committee of ICM 2010. Considering past experience we can expect this call to take place around March 2008. The International Affairs Committee decided on a strategy to prepare a dossier on the Canadian mathematicians having made significant contributions in the 5 years ending in 2007. In particular the following actions have been taken:

- An announcement in the CMS Notes and on the electronic distribution list (cmath) was sent in winter 2007.
- A call to department chairs was sent in winter 2007.
- A call to the Directors of the Institutes for consultation of their scientific panels was sent in spring 2007.

The IAC nominated 20 small sub-committees (comprising two to three individuals) in each discipline covered by a session at ICM 2006. These sub-committees reported by September 2007. They identified the deserving Canadians in their discipline and arranged for short rationales to be prepared for each candidate. The IAC nominated a General Committee which is in charge of preparing the final list of names. In order that no one is left aside, this General Committee also considered the case of all members of the sub-committees.

Apart from this dossier, the International Affairs Committee sent calls for input on several important issues:

On October 13 2007, the IAC sent a call for input to the Canadian mathematical community on the following announcement of the IMU:

The IMU Executive Committee would like to find a sustainable location with associated suitable infrastructure at which the IMU secretarial staff could reside for a (long) period of time, and at which the costs of running the IMU operations is either low or covered by some long term grant/subsidy or the like. The purpose of this letter is to solicit from all adhering organizations and major mathematical societies and institutions offers or suggestions for the location of such an office.

The deadline for proposals is January 31 2008. The Fields Institute announced its intention to submit a bid. On November 14 2007, the IAC sent a call for input to the Canadian mathematical community on the opportunity for a Canadian bid for ICM 2014. The IAC will follow up on these two dossiers in 2008.

INVESTED FUNDS COMMITTEE REPORT

Chair: David Promislow (York)

The Invested Funds Committee is responsible for the administration of the various CMS invested funds. These include the CMS Endowment Fund, the Mathematical Olympiads Fund, the David Borwein Fund and the CMS Contingency Fund.

The Invested Funds Committee is a new committee, started in 2007, and is intended to serve as an arm's length body from the Finance Committee, which had previously handled these matters.

The Invested Funds Committee met twice in 2007. It reviewed the Terms of References for the funds, the investment policy, and the asset mix. We were given detailed reports on the performance of the investments over the previous year by the financial advisor, TD Asset Management. In addition, we made recommendations for the annual amounts to be allocated for the operations of each of the endowed funds.

A project, which has been deferred to 2008, is to investigate possible methods of hedging against currency fluctuations. This affects the Society since the bulk of the subscription revenue is currently received in US dollars.

MATHEMATICAL COMPETITIONS COMMITTEE REPORT

Chair: E. Barbeau (Toronto) to August 31 and Nead Madras (York) since September 1

Introduction:

The Mathematical Competitions Committee (MCC) oversees the Society's involvement in mathematics contests. The Society sponsors and runs two competitions: the Sun Life Financial Canadian Open Mathematics Challenge (COMC, with the University of Waterloo's Centre for Education in Mathematics and Computing, and now sponsored by Sun Life Financial) and the Canadian Mathematical Olympiad (CMO). The MCC is responsible for Canada's participation in the Asian Pacific Mathematics Olympiad (APMO) and the International Mathematical Olympiad (IMO), and supervises the Mathematical Olympiad Correspondence Program (Olymon) and the CMS National Math Camp.

Most of the work of the MCC is done by its four sub-committees (the COMC, CMO, and IMO Committees, and the Correspondence Coordinator). Further information, including press releases, on most of the items in this report can be found through the CMS Competitions web page www.cms.math.ca/Competitions/ and at www.cms.math.ca/MediaReleases/.

The MCC and (especially) its sub-committees are very active, with a large number of deadlines throughout the calendar. I would like to thank all members for their enthusiasm, reliability, and hard work in making sure that everything runs smoothly. The CMS Executive Office, especially the Executive Director Graham Wright, also deserve our gratitude for their dedication.

The Canadian Mathematical Olympiad:

The 39th Canadian Mathematical Olympiad was written by 76 candidates on Wednesday, March 28, 2007. Seven students were presented with awards at the annual Awards Banquet at Renison College at the University of Waterloo on Tuesday, June 12, 2007:

FIRST PRIZE and the Sun Life Financial Cup - Yan (Cynthia) Li, Dr. Norman Bethune Collegiate Institute, Scarborough, ON; **SECOND PRIZE - Jonathan Schneider**, University of Toronto Schools, Toronto, ON; **THIRD PRIZE - Chengyue (Jarno) Sun**, Western Canada High School, Calgary, AB. **HONOURABLE MENTIONS** were awarded to: **Jia Guo**, O'Neill Collegiate and Vocational Institute, Oshawa, ON; **Kent Huynh**, University of Toronto Schools, Toronto, ON; **Steven Karp**, Lord Byng Secondary School, Vancouver, BC; and **Alexander Remorov**, William Lyon Mackenzie Collegiate Institute, North York, ON. A full report of the CMO, including the question paper, solutions and analysis of the marking can be found at www.cms.math.ca/Competitions/CMO. We note that the first problem on the paper was due to the late Robert Barrington Leigh, who was a CMO prizewinner and member of the Canadian IMO team before heading to the University of Toronto, where he was an undergraduate at the time of his death.

The candidates for the CMO are selected mainly on the basis of their performance in the Canadian Open Mathematics Challenge (COMC) written the previous November. We have been aware that this method of screening the candidates is imperfect, and so the CMS is introducing an intermediate step in 2008. The top approximately fifty students in the COMC are automatically invited to write the CMO. The next 200 will be sent electronically a set of problems and invited to submit solutions; these will be used to select additional candidates who may benefit from the CMO experience.

The Society is indebted to many sponsors for the success of the CMO, particularly to its dedicated and long-term major sponsor, Sun Life Financial.

The Asian Pacific Mathematics Olympiad:

The 19th Asian Pacific Mathematics Olympiad (APMO) was written on March 13, 2007. A total of 44 Canadian students wrote the exam. The top student was **Dimitri Dziabenko**, followed closely by **Danny Shi** and **Jarno Sun**. The top ten students became Canada's official APMO contestants, and, as usual, we won the maximum set of awards (one gold, two silver, and four bronze medals, plus three honourable mentions). Further details regarding the 2007 APMO may be obtained through www.cms.math.ca/Competitions/APMO/.

International Mathematical Olympiad:

The 48th International Mathematical Olympiad (IMO) took place in Hanoi, Vietnam, from July 19 to July 31, 2007. The Team Leader was Bill Sands of the University of Calgary, the Deputy Leader was Adrian Tang of University of Calgary, and the Deputy Observer was Minh-Lac Bui of CP Rail. The six high school students on the Canadian team were **Kent Huynh**, University of Toronto Schools, Toronto, ON; **Steven Karp**, Lord Byng Secondary School, Vancouver, BC; **Jonathan Schneider**,

University of Toronto Schools, Toronto, ON; **Yan (Cynthia) Li**, Dr. Norman Bethune Collegiate Institute, Scarborough, ON; **Alexander Remorov**, William Lyon Mackenzie Collegiate Institute, North York, ON; and **Chengyue (Jarno) Sun**, Western Canada High School, Calgary, AB. The Canadian team placed 27th out of 93 countries. A Silver Medal was awarded to Alexander Remorov, and Bronze Medals to Kent Huynh, Steven Karp, and Yan (Cynthia) Li. In addition, Chengyue (Jarno) Sun received an Honourable Mention.

Adrian Tang's report on the 2007 IMO was published in the November 2007 issue of the CMS Notes. The Society's Media Release on the 2007 IMO results is at <http://cms.math.ca/MediaReleases/2007/imores.html>.

The Winter Training Seminar was hosted by York University, January 2-7, 2007, and was attended by fifteen high school students from across Canada. The local organizer was Neal Madras, assisted by Alfred Pietrowski and Andrew Toms (all of York), as well as the staff of the Department of Mathematics and Statistics and of Bethune College. The program of the seminar was organized by the Team Leader and Deputy Leader, with assistant trainers Man-Duen Choi (Toronto), Ed Doolittle (Regina), Peter Gibson (York), and Felix Recio (Toronto).

The Summer Training Seminar took place at the University of Calgary and at BIRS from July 6 to July 21. Six local students from Alberta and British Columbia attended the Calgary portion of the Seminar, from July 7 to July 10. On July 10, a Team Sendoff Reception was held at the University of Calgary, where the Team was introduced to the local media, and later that afternoon the team members were driven to BIRS, where the rest of the Seminar was held. The most notable innovation this year was the inclusion of the Mexican IMO team (six students and the Deputy Leader, Rogelio Valdez Delgado) in the training at BIRS, from July 14 to July 19. Thanks are due to Brenda Shakotko and Nassif Ghoussoub at BIRS, the staff at the University of Calgary, and trainers Amir Amiraslani (Calgary), Ed Doolittle (Regina), Mogens Hansen (Vancouver), Felix Recio (Toronto), Lily Yen (Capilano College), and IMO alumni Alex Fink, David Rhee, and Yufei Zhao.

More information regarding the 2007 IMO can found at www.cms.math.ca/MediaReleases/ and www.cms.math.ca/Competitions/IMO.

Mathematical Olympiad Correspondence Program:

The Mathematics Olympiad Correspondence Program (Olymon) is a continuing program in which secondary school students submit solutions to problems for marking. In 2007, there were seven sets of problems, set and marked by Ed Barbeau, Rosu Mihai, Valeria Pandelieva and Lily Yen. Generally, each set attracts solutions from between ten and twenty students. Since there is now a large collection of problems for students to practice on, available on both the websites www.cms.math.ca/Competitions/MOCP and www.math.utoronto.ca/barbeau, the frequency of the problem sets has been reduced to about one set every two months.

CMS National Math Camp:

The National Math Camp is designed primarily for younger

Canadian students with at least two years remaining in high school (grades 8-10) and with the potential to compete at the Mathematical Olympiad level. Participation in this camp is by invitation only.

The 2007 CMS National Math Camp took place at John Abbott College (Quebec) from July 1 to 7. Twenty-three students attended the camp (7 female, 16 male). We are grateful to the main organizer Daniel Gatien (John Abbott) for all of his work in making this camp successful. See the Education Committee report for information about other Math Camp activities.

The Sun Life Financial Canadian Open Mathematics Challenge:

November 2007 marked the twelfth writing of the COMC, but its first writing under the banner of Sun Life Financial. It is a collaborative activity between the CMS and the Centre for Education in Mathematics and Computing at the University of Waterloo. This Contest has several purposes. First and foremost, it aims to encourage students in their exploration of mathematics and problem-solving. Second, the COMC provides an enrichment activity for teachers to use with their students during the fall term. And third, the COMC is used by the CMS to identify students who will write the Canadian Mathematical Olympiad and who will attend, among other events, the Winter Training Seminar and the National Math Camp.

The 2007 edition of the COMC had a record number of over 7,300 participants (with almost 8,300 registrants). The paper had an average mark of 41 out of 80 thus giving a good chance of success to every student who wrote the paper, while continuing to provide a challenge for the very best problem solvers in the country. This year's average recovered nicely from a partially disastrous result in 2006. The 2007 edition of the COMC again saw a marked increase in the number of international competitors.

The creation this year of the Canadian Mathematical Olympiad Qualification Repêchage has allowed the COMC to not have to be as difficult at the "top end", as there is now an additional mechanism to help choose students to write the CMO. This should allow the COMC to maintain a slightly more consistent feel.

The top seven competitors were: **Bo Cheng Cui**, West Vancouver S.S., West Vancouver, BC; **Dimitri Dziabenko**, Don Mills C.I., North York, ON; **Tony Feng**, Phillips Academy, Andover, MA; **Neil Gurram**, ICAE, Troy, MI; **Junjiajia Long**, Glebe C.I., Ottawa, ON; **Alexander Remorov**, William Lyon Mackenzie C.I., North York, ON; **Jonathan Schneider**, University of Toronto Schools, Toronto, ON. Thanks go to the hard-working Problems Committee who annually ensure that the paper meets its varying goals, as well as the wonderful group of more than 70 markers. Further details are available at: www.cms.math.ca/Competitions/COMC/ or www.cemc.uwaterloo.ca/english/contests/open.shtml.

News Updates on National and Provincial Issues

Suggestions for Canadian Speakers at ICM 2010:

The CMS International Affairs Committee has been working since last spring to compile a list of Canadian researchers whose recent contributions put them in the running as a plenary or invited speaker at the 2010 International Congress of Mathematicians (ICM 2010). The committee has struck subcommittees for each of the ICM's session topics, and each of these committees has submitted their recommendations. The general committee is preparing the final list. The timing is perfect, because the International Mathematical Union has just issued a call to its member organizations asking for suggestions. Canada is represented at the International Mathematical Union by the National Research Council of Canada (NRCC), which has delegated the job to the International Affairs Committee.

Canadian Bid for ICM 2014:

Canada previously submitted a bid to host the 2010 International Congress of Mathematicians in Montreal. However, the International Mathematical Union selected Hyderabad, India for 2010, and that is where the event is being held in August 2010.

Canada's chances are not dead, however! François Lalonde has mobilized the Quebec mathematics community and set up a committee to prepare a bid for Montreal to host the 2014 International Congress of Mathematicians. Bruno Rémillard has volunteered to act as local congress organizer, and Christiane Rousseau will lead the bid preparation, just as she did so masterfully for ICM 2010. François Lalonde, Bernard Hodgson and Jean-Marie de Koninck will sit on the organizing committee. As was the case for ICM 2010, the bid will be presented by the NRCC at the Palais des Congrès in Montreal. Work is already under way. Dates have been set and the budget is currently being drafted jointly by the NRCC and the Palais des Congrès. The community will be kept abreast of developments, and we hope that they will participate wholeheartedly, as they did the last time. Note in passing that Canada has hosted the ICM twice in the past: Toronto in 1904 and Vancouver in 1974.

Accromath:

Even without knowing the circulation of PIMS' magazine *Pi in the Sky*, we can all agree that a publication dedicated to encouraging young people's interest in mathematics and science is a capital idea! Accordingly, the Institut des sciences mathématiques, in cooperation with the Centre de recherches mathématiques, has created a French-language counterpart. The new magazine *Accromath* is aimed at all students and teachers at the high school and CEGEP level. Its fourth issue has just been released.

The guiding principle of the editorial committee is obviously to remain accessible to its target audience. In the four issues so far published, articles have run the gamut from pure mathematics to everyday applications; from introductions to cardinality and countability and the problem of sphere packing to articles

on cartography and the mathematics of the heart. Articles are often supplemented by historical background information and—of course—exercises! And the magazine already has a French correspondent, Jean-Paul Delahaye, whose column «Pour la science» explains mathematical concepts in everyday language.

Right from the magazine's first issue in April 2007, the editorial committee also elected to use a professional graphic artist. *Accromath* received the bronze medal for graphic design at the prestigious international *Summit Creative Awards*, where thousands of products from 23 different countries are showcased. We encourage you to check out the magazine for yourselves at <http://accromath.ca/>. Naturally, the magazine's success is a source of pride for the authors and the editorial committee. It has also given them a new problem: with over 1100 subscribers and a circulation of 5000, the production costs are starting to mount. But it is a very pleasant problem to have.

The magazine receives financial support from MITACS and the CMS.

CRM's "Grandes Conférences" Series:

In April 2006, François Lalonde, Director of the Centre de recherches mathématiques, along with Christiane Rousseau, organized the first in a series of talks for the general public. The aim of the "Grandes Conférences" series is to invite interested members of the general public to explore and experience the power and beauty of the most exciting recent mathematics developments in a language accessible to all.

The first talk in the series was to be given by Jean-Marie De Koninck of the Université Laval. The organizers were on tenterhooks: Would the public respond to the invitation? As it turned out, there was no reason to worry. De Koninck is a well-known personality (Order of Canada in 1994, Ordre national du Québec in 1999, and the Adrien-Pouliot Award from the CMS in 2004), and he had just been selected "2005 Scientist of the Year" by the team at *Années lumières*, a science program broadcast on Radio-Canada. The 250-seat hall was packed. And the series' popularity has not diminished since. Unsurprisingly, the audience typically includes students and members of Montreal's mathematical community, but they are not the majority. Recently the general public has represented the lion's share of the audience, and they show remarkable enthusiasm and interest in the scientific issues facing our society. The newspaper *Le Devoir* ran an article on the most recent talk by Étienne Ghys, devoted to the butterfly effect.

So far all the talks have taken place in Montreal. The other speakers have been Ivar Ekeland (UBC), Bart de Smit (Leiden), Jean-Paul Delahaye (Lille), Francis Clarke (Lyon) and Étienne Ghys (Lyon), and the next talk will be presented by Tadashi Tokieda (Cambridge).

Sessions

Analyse complexe et théorie des opérateurs

Complex Analysis and Operator Theory

Org: E. Fricain (Lyon), J. Mashreghi (Laval), T. Ransford (Laval)

Analyse géométrique et nonlinéaire

Geometric and Nonlinear Analysis

Org: P. Guan (McGill), E. Hebey (Cergy)

Analyse numérique des systèmes hyperboliques

Numerical Analysis for Hyperbolic Systems

Org: M. Laforest (École Polytechnique de Montréal), E. Lorin (Paris-Sud XI)

Calcul scientifique

Scientific Computing

Org: C. Bernardi (CNRS-Paris VI), A. Bourlioux (Montréal), B. Wetton (UBC)

Combinatoire algébrique

Algebraic Combinatorics

Org: C. Hohlweg (UQAM), F. Saliola (UQAM)

Dynamique nonlinéaire dans les sciences de la vie

Nonlinear Dynamics in Life Sciences

Org: J. Bélair (Montréal), P. Chossat (CIRM-Marseille), F. Nekka (Montréal), J. Wu (York)

Éducation Mathématique

Mathematics Education

Org: M. Artigue (Paris), B. Hodgson (Laval)

Équations aux dérivées partielles

Partial Differential Equations

Org: H. Berestycki (Paris), R. Jerrard (Toronto)

Femmes en mathématiques

Women in Mathematics

Org: B. Keyfitz (Fields), M.F. Roy (Rennes)

Formes automorphes

Automorphic Forms

Org: S. Kudla (Toronto), C. Moeglin (CNRS-IMJ)

Géométrie arithmétique et théorie des nombres

Arithmetic Geometry and Number Theory

Org: G. Chenevier (CNRS, Paris XIII), H. Darmon (McGill)

Géométrie non commutative et K-théorie pour algèbres d'opérateurs

Non-Commutative Geometry and K-Theory for Operator Algebras

Org: A. Connes (Collège de France-IHES), G. Elliott (Toronto)

Géométrie symplectique et de contact

Symplectic and Contact Geometry

Org: E. Giroux (CNRS-ENS Lyon), Y. Karshon (Toronto)

Groupes algébriques et sujets reliés

Algebraic Groups and Related Topics

Org: P. Gille (Paris-Sud), Z. Reichstein (UBC)

Mathématiques financières

Financial Mathematics

Org: N. Touzi (CREST-Paris), T. Salisbury (York)

Mécanique des fluides industrielle

Industrial Fluid Mechanics

Org: N. Balmforth (UBC), J.F. Gerbeau (INRIA), B. Maury (Paris Orsay)

Méthodes cinétiques en EDP

Kinetic Methods in Partial Differential Equations

Org: F. Castella (Rennes), R. Illner (Victoria)

Méthodes variationnelles et numériques en géométrie, physique et chimie

Variational and Numerical Methods in Geometry, Physics and Chemistry

Org: L. Bronsard (McMaster), E. Cances (ENPC), M. Esteban (CNRS - Paris-Dauphine)

Probabilités

Probability

Org: M. Barlow (UBC), J.F. Le Gall (Paris XI-ENS), E. Perkins (UBC), W. Werner (Paris Orsay)

Processus stochastiques en évolution, écologie et génétique

Stochastic Processes in Evolution, Ecology and Genetics

Org: D. Dawson (Carleton), S. Méléard (École Polytechnique-Paris X)

Statistique

Statistics

Org: Y. Baraud (Nice), B. Levit (Queen's)

Systèmes dynamiques complexes

Complex Dynamical Systems

Org: X. Buff (Toulouse), M. Lyubich (Toronto), T. Lei (Cergy-Pontoise)

Théorie analytique des nombres

Analytic Number Theory

Org: P. Michel (Montpellier), R. Murty (Queen's)

Théorie des ensembles et ses applications

Set Theory and its Applications

Org: A. Louveau (Paris VI), S. Todorcevic (Toronto; Paris Dauphine)

Théorie des modèles et applications à la géométrie

Model Theory and Applications to Geometry

Org: Z. Chatzidakis (CNRS), P. Speissegger (McMaster)

Topologie algébrique

Algebraic Topology

Org: A. Adem (UBC), B. Oliver (Paris XIII)

Topologie, noeuds et sujets reliés

Topology, Knots and Related Fields

Org: M. Boileau (Toulouse), S. Boyer (UQAM)

Communications Libres

Contributed Papers

Org: L. Bélair, F. Bergeron (UQAM)

Session d'affiches

Poster Session

Minisymposia de la SCMAI / CAIMS Minisymposia

Analyse asymptotique de motifs localisés dans les EDPs

Asymptotic analysis of localized patterns in PDEs

Org: T. Kolokolnikov, D. Iron (Dalhousie)

Modèles pour la transmission de maladies contagieuses

CONGRÈS CANADA-FRANCE 2008 / CANADA-FRANCE CONGRESS 2008

Models for transmission of communicable diseases

Org: F. Bauer (UBC), P. Van den Driessche (Victoria)

Modèles pour les mouvements en biologie

Models of motion in biology (CAIMS)

Org: D. Coombs (UBC)

Modélisation des interactions fluides-structures en architecture navale et génie maritime

Modeling fluid-structure interaction in naval architecture and ocean engineering

Org: S. Iakovlev (Dalhousie)

Nouveaux logiciels pour la solution numérique d'équations différentielles

New software for the numerical solution of differential equations (CAIMS)

Org: P. Muir (Saint Mary's), R. Spiteri (Saskatoon)

Perturbations singulières et le modèle de Ginzburg-Landau

Singular perturbations and the Ginzburg-Landau model

Org: L. Bronsard, S. Alama (McMaster)

Symposium canadien en mécanique des fluides

Canadian Symposium on Fluid Dynamics (CSFD)

Org: J. Bowman (Alberta), L. Campbell (Carleton), Kai Schneider (Provence, Marseille) L. van Veen (Concordia)

Ateliers de MITACS / MITACS workshops

1er Atelier Franco-Canadien MITACS sur les bases et pratiques de la sécurité

1st Canada-France MITACS Workshop on Foundations & Practice of Security

Atelier MITACS-IFM2 sur les développements récents en gestion des risques financiers et d'assurance

MITACS-IFM2 Workshop on Recent Advances in Financial and Insurance Risk Management

Atelier sur les méthodes de traitement de signal appliquées à l'imagerie cérébrale

Workshop on Signal Processing Methods in Brain Imaging

SCHEDULE / HORAIRE (AS OF MAR 14, 2008)

	Saturday / Samedi May 31 mai	Sunday / Dimanche June 1 / 1 ^{er} juin	Monday / Lundi June 2 juin	Tuesday / Mardi June 3 juin	Wednesday / Mercredi June 4 juin	Thursday / Jeudi June 5 juin
all day			8:00-17:00 - Registration / Inscription 9:30-16:00 - Exhibits / Expositions 9:30-16:00 - Poster Presentation / Présentations par affiches		8:00-16:00 Registration / Inscription	
Business Mgs. Réunions	9:00-17:00 MITACS ISAB Meeting 18:00-22:00 CMS Executive Committee Dinner	8:30-12:30 MITACS RMC Meeting 11:00 AM-13:00 CMS Dev. Group Lunch 13:30-18:30 CAIMS Board of Directors CMS Board of Directors		12:00-17:00 MITACS Board Meeting 12:30-14:00 CAIMS AGM CMS AGM	8:00-10:30 MITACS PL Meeting 9:00-12:00 MITACS SAC Meeting 12:00-13:30 MITACS AGM	
Work shops	all day Security Workshop	all day Security Workshop 17:30-18:30 CRI Presentation	all day Security Workshop Finance & Insurance Workshop 12:30-14:30 Mathematics & Industry Workshop	all day Finance & Insurance Workshop 12:30-14:00 Student Workshop	all day Medical Imaging Workshop 12:30-14:00 NSERC Discovery Grant	all day Medical Imaging Workshop 12:30-14:00 NSERC Grant Application
Scientific and Social Events / Activités scientifiques et sociales			8:00-8:30 OPENING / OUVERTURE			
			8:30-9:30 Jean-Pierre Serre	8:00-9:30 Sessions	8:00-9:30 Sessions	8:00-9:30 Sessions
		9:00-12:00 Poster Setup		9:30 – 10:00 Break/Pause		
			10:00-11:30 Sessions	10:00-11:30 Sessions	10:00-11:30 Sessions	10:00-11:30 Sessions
			11:30-12:30 CAIMS Cecil Graham Award	11:30-12:30 Martin Barlow CMS Jeffery-Williams Prize	11:30-12:30 CAIMS Research Prize	11:30-12:30 Izabella Laba CMS Krieger-Nelson Prize
		12:00-15:00 Poster Judging	12:30-14:30 Break / Pause		12:30-14:00 Break / Pause	
			14:30-16:00 Sessions	14:00-15:00 Nizar Touzi	14:00-15:00 Yves André	14:00-15:00 Alice Guionnet
				15:00 -16:00 Gérard Laumon	15:00 -16:00 Mary Pugh	15:00 -16:00 Olivier Biquard
		15:00-15:30 Coffee break		16:00-16:15 Break/Pause		
		15:30-17:00 Poster Judging	16:15 – 17:15 Jianhong Wu	16:15 – 17:15 Eric Sere	16:15 – 17:15 Luc Devroye	16:15 – 17:15 Andrew Granville
		18:00-19:00 Registration / Inscription	17:15 – 18:15 Nicole Tomczak-Jaegermann		17:15 – 18:15 Rick Kenyon	17:15-17:45 CLOSING / MOT DE LA FIN
		19:00-19:30 Edward Bierstone CMS Teaching Award		18:30-19:30 Reception and Student Award Ceremony / Réception et cérémonie de remise de prix aux étudiants	18:30-19:30 Yvan Saint-Aubin Désordre et beauté	
		19:30-21:00 Welcome Reception Réception de bienvenue	19:30-22:00 Student Social – Activité sociale pour les étudiants	19:30-22:30 Awards Banquet	19:30-20:30 Reception/Réception	updated March 14, 2008

CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

APRIL 2008 AVRIL

5-13 Clay-Fields Conference on Additive Combinatorics, Number Theory, and Harmonic Analysis
www.fields.utoronto.ca/programs/scientific/07-08/harmonic_analysis/

7-11 Workshop: Spectrum and Dynamics (CRM, Montreal, QC)
activities@crm.umontreal.ca

12-13 MIT Women in Math (MIT, Cambridge, MA)
www.math.mit.edu/womeninmathv

16-27 Workshop in Geometric Evolution Equations (CRM, Montreal, QC)
www.crm.umontreal.ca/Equations08

MAY 2008 MAI

1-3 Conference in Honour of Keith Geddes' 60th Birthday (Stonehaven Bay, Trinidad and Tobago)
www.orcca.on.ca/conferences/mica2008

10-13 SIAM Conference on Optimization (Boston, MA)
www.siam.org/meetings/op08/

12-16 Workshop: Singularities, Hamiltonian and Gradient Flows (CRM, Montreal, QC)
activities@crm.umontreal.ca

16-19 2nd International Conference, Athens Institute for Education and Research (ATINER), (Athens, Greece)
www.atiner.gr/docs/Mathematics.htm

19-21 Conference on Frontiers in Applied and Computational Mathematics (FACM '08) New Jersey Institute of Technology (Newark, NJ)
<http://m.njit.edu/Events/FACM08/>

19-24 Lie Theory and Geometry: The Mathematical Legacy of Betram Kostant (Pacific Institute of Math Sciences, Vancouver, BC)
www.pims.math.ca/~dxu/08kostant

19-24 Workshop on Floer Theory and Symplectic Dynamics (CRM, Université de Montreal, Montreal, QC)
http://www.crm.umontreal.ca/act/theme/theme_2008_1_en/floer_e.shtml

25-28 Seventh Iberoamerican Conference on Topology and its Applications (CITA 2008), (Valencia, Spain)
<http://cita.webs.upv.es>

JUNE 2008 JUIN

1-3 Canadian Society for History and Philosophy of Mathematics/Société canadienne d'histoire et de philosophie des mathématiques. The 2008 Annual Meeting will be held in conjunction with the Learned's (CFHSS) (UBC, Vancouver, B.C.). The special session of the meeting will be on "Trigonometry and its applications."
www.cshpm.org

1-5 Second Canada-France Congress (UQAM, Montréal, QC)
www.canada-france.math.ca

2-7 Workshop on Mathematical Aspects of Quantum Chaos (CRM, Université de Montreal, Montreal, QC)
www.crm.umontreal.ca/Mathphys2008/

4-7 First Joint International Meeting of AMS with the Sociedade Brasileira de Matematica (Rio de Janeiro, Brazil)
www.ams.math.org/amsmtgs/internmtgs.html

9-20 PIMS Industrial Problem Solving Workshop (University of Regina, SK)
www.pims.math.ca/ipsw

22-29 46th International Symposium on Functional Equations (Opava-Hradec nad Moravici, Czech Republic)
isfe46@math.slu.cz, romanger@us.edu.pl

JULY 2008 JUILLET

2-4 Growth and Control of Tumors: Theory and Experiment
www.fields.utoronto.ca/programs/scientific/08-09/mathoncology/control

6-13 Eleventh International Congress on Mathematics Education (ICME-11) (Monterrey, Mexico)
<http://icme11.org/node/12>

22-26 International workshop on Operator Theory and its Applications (College of William and Mary, Williamsburg, VA)
www.math.vm.edu/~vladi/IWOTA/IWOTA2008.htm

30-Aug 2 The Society for Mathematical Biology (SMB) Conference, hosted by the Centre for Mathematical Medicine (CMM),
www.fields.utoronto.ca/programs/scientific/CMM/08-09/SMB

AUGUST 2008 AOÛT

2-6 VICBC Summer School on Integrative Cancer Biology
www.fields.utoronto.ca/programs/scientific/08-09/mathoncology

25-27 Quantitative Cancer Modelling: Mathematical Models, Imaging and Bioinformatics
www.fields.utoronto.ca/programs/scientific/08-09/mathoncology

OCTOBER 2008 OCTOBRE

4-5 AMS Western Section Meeting (UBC & PIMS, Vancouver, BC)
www.ams.math.org/amsmtgs/sectional.html

DECEMBER 2008 DECEMBRE

6-8 CMS Winter 2008 Meeting
www.cms.math.ca/Events

17-21 First Joint International Meeting of AMS with the Shanghai Mathematical Society (Shanghai, China)
www.ams.math.org/amsmtgs/internmtgs.html

Call for Manuscripts – ATOM A Taste of Mathematics

The booklets in the series, ATOM, are designed as enrichment materials for high school students with an interest in and aptitude for mathematics. Some booklets in the series will also cover the materials useful for mathematical competitions.

So far, seven volumes have been published - Volume I, Problems from the Olympiad Correspondence Program; Volume II, Algebra - Intermediate Methods; Volume III, Inequalities; Volume IV, Problems for Mathematics Leagues; Volume V, Combinatorial Explorations; Volume VI, Problems for Mathematics Leagues, II; and Volume VII, Problems of the Week. There are two manuscripts under active consideration on Problems for Mathematics Leagues, III, and Homework, the CAUT Problems.

The Editorial Board is interested in receiving proposals for future volumes, either as a specific proposal or as a manuscript. Submitters should note that the booklets are relatively short, not exceeding 64 pages in length. So far we have published only in English because of perceived sales demand.

All proposals and manuscripts should be sent to the

Demande de manuscrits - ATOM Aime-T-On les Mathématiques

Les Livrets de la collection ATOM sont destinés au perfectionnement des étudiants du secondaire qui manifestent un intérêt et des aptitudes pour les mathématiques. Certains livrets de la collection ATOM servent également de matériel de préparation aux concours de mathématiques sur l'échiquier national et international.

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