CMS NOTES de la SMC

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FROM THE PRESIDENT'S DESK

Anthony To-Ming Lau
University of Alberta, Edmonton

2008 CMS Message

This is my first message as President of the Canadian Mathematical Society. The Society is now entering its 63rd year of operation as a major organization devoted to the promotion of mathematics in the areas of research, education and applications of mathematics.

I would like to begin by thanking Tom Salisbury for his tremendous devotion and contributions to the Canadian Mathematical Society serving as President during the last two years. It was indeed a great pleasure to work with him during the last year as President-Elect. He helped me to understand the complexity of the organization from "board meetings" to "fundraising" with which I had little experience. His tremendous energy, enthusiasm, patience and ideas are true inspirations to me. Thank you, Tom, for all your work and for delaying your sabbatical for six months in order to help with the transition.

I cannot overstate how well served we are by the volunteering effort of so many people in the Canadian Mathematical Society. I would like to take this opportunity to thank all the members of the Board of Directors, and members and Chairs of our many committees for their service to the Society. In particular, I would like to thank all our outgoing chairs: Bill Sands, University of Calgary (International Mathematical Olympiad Committee), Ed Barbeau, University of Toronto (Canadian Mathematical Olympiad Committee), Edgar Goodaire, Memorial University of Newfoundland (Nominating Committee) and Joy Abramson, University of Toronto (Student Committee) for their many years of important contributions to the Society.

The entire Canadian Mathematical Society has been very fortunate to have benefited from the remarkable work accomplished by the staff in the CMS Executive Office in Ottawa. Thank you to all of you! Our Executive Director, Graham Wright, has served the Society as Executive Director since 1979. He will soon retire from this position on December 31, 2008. On behalf of the Canadian Mathematical Society, I would like to thank Graham for his dedication and leadership for the last 30 years. His distinguished long service to the Society cannot be overstated. I would also like to welcome Joseph Khoury (University of Ottawa) to his new position as Executive Director from January 1, 2009. Joseph has been Associate Executive Director from July 1, 2008, working together with Graham. Graham will remain from the New Year till the end of June to assist in the transition. Joseph will be working part-time for the CMS for the rest of this year and then taking a six-month leave of absence from the University of Ottawa starting in January 2009.

Central to this year's activity was the highly successful Second Canada-France Mathematics Congress in Montreal June 1 – 6, 2008. The congress with close to 800 delegates who participated in 28 sessions and seven mini-symposia and three workshops. The Congress partners were: the Canadian Mathematical Society, Canadian Applied and Industrial Mathematics Society (CAIMS), Centre de recherches mathématiques (CRM), Fields Institute, Institut des sciences mathématiques (ISM), Mathematics of Information Technology and Complex Systems (MITACS), Pacific Institute for the Mathematical Sciences (PIMS), Société de Mathématiques Appliquées & Industrielles (SMAI), Société Mathématique de France (SMF), and Université du Québec à Montréal (UQAM).

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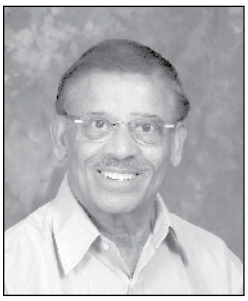
EDITORIAL

by Srinivasa Swaminathan
Dalhousie University, Halifax



"There are mathematicians, and then there's the rest of the world, and not much interaction between the two." William P. Thurston, (*More Mathematical People*, Ed. Donald J. Albers, et al.)

The word 'math' was used often during the American Presidential Primaries in connection with counting of votes and pointing out which candidate obtained more votes. 'To do math' is a phrase that is often heard where just doing computation with numbers is meant. Those who have studied math as part of their school curriculum are likely to carry a better understanding of what 'to do math' means; they would probably think of algebra, solving equations and geometry, if their performance in these subjects had been reasonably good. When John Kelley was introduced to a gentleman as a mathematician at an evening party, the latter commented that John must be good at multiplying large numbers. John explained that mathematicians do not spend their time doing arithmetical calculations, but they keep thinking about patterns common to mathematical situations; abstract patterns underlie many problems of everyday life. Keith Devlin, who has written books popularizing mathematics, has devoted a whole book [1] to show how simple math ideas are inherent in the minds of living creatures.

Math is ubiquitous. Coupled with computing science math techniques are used in businesses, marketing, shopping and other areas of everyday life in a manner that would have amazed those who lived fifty or more years ago. Visiting a company like Google or Yahoo one would find teams of mathematicians discussing techniques in front of white boards covered with equations and algorithms. They work with specialists in other areas such as statistics, economics, etc.

With all such progress one would expect that there would be a good demand for studying mathematics. But the figures of graduate study enrolment do not seem to support this. The proverbial public apathy towards mathematics might be one of the reasons why this is so. Many people have trouble keeping track of the cumulative cost of grocery items as items pile up in their grocery cart. Indeed, they are in the company of famous personalities; for example, the great composer Beethoven found that arithmetic was beyond him. His biographer Peter Latham writes [2], "He might manage a simple addition with the help of his fingers, but calculations involved in financial transactions always gave him difficulty, and right at the end of his life the composer of the Ninth Symphony was being instructed by his nephew in simple multiplication -- on his death-bed!"

Keith Devlin suggests a four step approach to improve one's ability at school math; (i) Be aware that mathematical activity is a natural thing that occurs all the time in nature, (ii) Approach abstract math as merely a formalized version of one's innate mathematical abilities, (iii) Recognize why the school methods were developed, what their advantages are, and what it is about them that makes them hard to learn. (iv) Practice. Given sufficient repetition our minds and/or our bodies can become skilled at performing practically any new task.

Ever since mathematics news made headlines in June 1993 when Andrew Wiles' achievement in proving Fermat's last theorem got front-page coverage in the *New York Times*, and the more recent announcements of Clay Institute million dollar prizes, there has been increased awareness of mathematics and mathematical research among the public. Whether such progress translates into interaction between mathematicians and the rest of the world to which Bill Thurston calls attention (in the quote above) is a big question.

[1] Keith Devlin, *The Math Instinct, Why you're a mathematical genius (along with lobster, birds, cats and dogs)*, Thunders Mouth Press, N.Y. 2005.

[2] Peter Latham, 'Beethoven,' in *Lives of Great Composers*, ed. A. L. Bachrach, 1935.

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ÉDITORIAL

par Srinivasa Swaminathan
Dalhousie University, Halifax

« Il y a les mathématiciens, et puis il y a le reste du monde. Et entre les deux, il n'y a pas beaucoup d'interaction. » William P. Thurston (dans *More Mathematical People*, Donald J. Albers et coll.)

Le mot « maths » fut maintes fois utilisé durant les primaires américaines pour parler du comptage des votes et de l'avance de tel ou tel candidat. « Faire des maths » est une expression qui s'emploie souvent pour parler de calculs pourtant simples. Ceux qui ont étudié les maths à l'école auront vraisemblablement une meilleure idée de ce que c'est que « faire des maths »; ils penseront probablement à l'algèbre, aux équations ou à la géométrie, s'ils réussissent assez bien dans ces matières. Un soir que John Kelley se fit présenter comme mathématicien à un autre homme, ce dernier observa que John devait être doué pour multiplier de grands nombres. John expliqua que les mathématiciens ne passent pas leur temps à faire des calculs arithmétiques, mais à réfléchir aux similitudes entre des situations mathématiques; bien des problèmes de la vie courante présentent des similitudes abstraites. Keith Devlin, qui écrit des ouvrages de vulgarisation mathématique, a consacré un livre entier aux concepts mathématiques simples dans l'esprit des êtres vivants [1].

Les maths sont omniprésentes. À l'ère de l'informatique, les techniques mathématiques trouvent dans la vie de tous les jours (entreprises, marketing, magasinage, etc.) des applications qui auraient épaté la galerie il y a cinquante ans ou plus. Visitez une entreprise comme Google ou Yahoo, et vous verrez des équipes de mathématiciens parler applications devant des tableaux couverts d'équations et d'algorithmes. Ils collaborent avec des spécialistes d'autres domaines (statisticiens, économistes, etc.).

Pareille évolution donnerait à penser que les études mathématiques ont la cote, mais les effectifs des programmes d'études supérieures ne font pas état d'un quelconque engouement. L'indifférence proverbiale des gens à l'égard des mathématiques explique peut-être en partie cette conjoncture. Beaucoup de gens ont de la difficulté à estimer le montant total de leur facture d'épicerie à mesure qu'ils mettent des articles dans leur panier. Des personnes célèbres se retrouvent aussi dans le même bateau; le grand compositeur Beethoven, par exemple, ne comprenait rien à l'arithmétique. Son biographe Peter Latham écrit : « Il arrivait parfois à faire de simples additions en comptant sur ses doigts, mais les calculs associés aux transactions financières lui donnaient toujours du fil à retordre. Si bien qu'à la toute fin de sa vie, l'auteur de la Neuvième Symphonie se faisait enseigner les rudiments de la multiplication par son neveu… sur son lit de mort! » [2]

Keith Devlin propose une démarche en quatre étapes pour ceux qui voudraient mieux réussir en mathématiques à l'école : 1) Prendre conscience que l'activité mathématique est un phénomène naturel qui se produit sans cesse dans la nature; 2) Considérer que les mathématiques abstraites ne sont qu'une version formalisée de nos aptitudes innées pour le calcul; 3) Comprendre pourquoi les méthodes scolaires ont été élaborées, quels en sont les avantages et qu'est-ce qui fait qu'elles sont difficiles à apprendre; 4) Pratiquer. L'esprit comme le corps sont capables d'accomplir efficacement presque n'importe quelle tâche nouvelle quand on s'y exerce suffisamment.

En juin 1993, Andrew Wiles a fait la une du *New York Times* pour avoir réussi à prouver le dernier théorème de Fermat. Plus récemment, les mathématiques ont encore fait les manchettes avec les prix d'un million de dollars annoncés par le Clay Institute. Ces événements ont éveillé les gens aux mathématiques et à la recherche mathématique. Pour revenir aux propos de Bill Thurston (citation en début de texte), la grande question est de savoir si cette évolution favorise l'interaction entre les mathématiciens et le reste du monde.

[1] Keith Devlin, *The Math Instinct, Why you're a mathematical genius (along with lobster, birds, cats and dogs)*, Thunders Mouth Press, N.Y. 2005.

[2] Peter Latham, « Beethoven », dans *Lives of Great Composers*, A. L. Bachrach (dir.), 1935.

NSERC - CMS Math in Moscow Scholarships

The Natural Sciences and Engineering Research Council (NSERC) and the Canadian Mathematical Society (CMS) support scholarships at $9,000 each. Canadian students registered in a mathematics or computer science program are eligible.

The scholarships are to attend a semester at the small elite Moscow Independent University.

Math in Moscow Program
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Application details
www.cms.math.ca/bulletins/Moscow_web/

For additional information please see your department or call the CMS at 613-562-5702.
Deadline **September 30, 2008** to attend the Winter 2009 semester.

NSERC CRSNG

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Le Conseil de Recherches en Sciences Naturelles et en Génie du Canada (CRSNG) et la Société mathématique du Canada (SMC) offrent des bourses de 9,000 $ chacune. Les étudiantes ou étudiants du Canada inscrit(e)s à un programme de mathématiques ou d'informatique sont éligibles.

Les bourses servent à financer un trimestre d'études à la petite université d'élite Moscow Independent University.

Programme Math à Moscou
www.mccme.ru/mathinmoscow/

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Pour plus de renseignements veuillez communiquer avec votre département ou la SMC au 613-562-5702.
Date limite le **30 septembre 2008** pour le trimestre d'hiver 2009.

CMS SMC

BOOK REVIEW Refreshing and Challenging

A Theoretical Introduction to Numerical Analysis

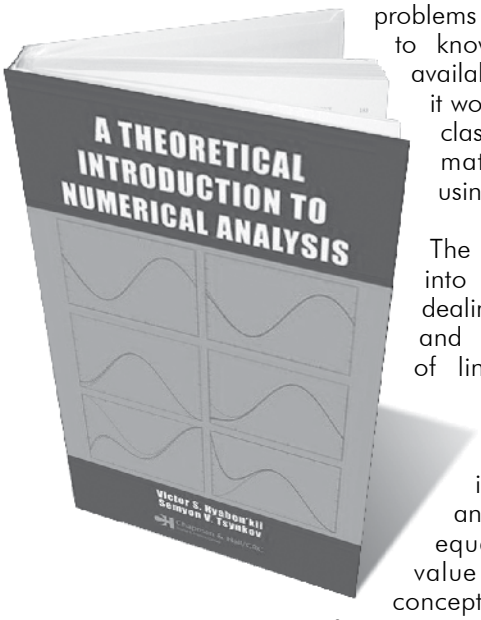
by Victor S. Ryaben'kii and Semyon V. Tsynkov, Chapman and Hall/CRC 2007 537 pages, US$79.95 ISBN 978-1584886075

Review by Patrick Keast, Dalhousie University.

The preface states that the intended readership is "beginning graduate students and senior undergraduate students in mathematics, science and engineering". It is also stated that the book "may also be of interest to working scientists and engineers". This may not be an accurate (or comprehensive) description of the set of potential readers. The subject of Numerical Analysis is extremely diverse, and is sufficiently rich and deep now that it is difficult to be expert in more than a few subordinate topics. In addition, it is not possible to cover the whole of Numerical Analysis in any great detail, in one book. In support of this statement, consider the (by now classic) monographs [1] (which treats ordinary differential equations, and restricts itself to only a subset of approximate techniques), [2] (which deals solely with numerical linear algebra), [3] (which mainly discusses one dimensional numerical integration, with some material on multidimensional quadrature) and other specialized texts at the same level as the one being reviewed. Given that these three books alone contain almost two thousand pages and more than two hundred and fifty references (with no intersection between the contents of the texts), and that many parts of numerical analysis are not included, clearly any text which has "Introduction to Numerical Analysis" in its title will be judged as much by what it does not include as by what it includes.

The choice of what to put in and what to leave out is surely idiosyncratic. But books published in North America with titles using the words Numerical Analysis usually cover more or less the same topics; indeed, a great many of these all have the same chapter headings: floating point arithmetic, linear equations, nonlinear equations, eigenvalues, numerical integration and differentiation, ordinary differential equations, partial differential equations. The present book, however, does not fit into this mould and contains a rather individualistic collection of topics. Victor Ryabenki has been a prominent member of the Russian applied mathematics community for a very long time. (In my first year of graduate school in 1964 at St. Andrews in Scotland I read a densely written book, The Theory of Difference Schemes by S. K. Godunov and V. S. Ryabenki, which made a great impression on me.) Semyon Tsynkov was Ryabenki's PhD student at Keldysh Institute of Applied Mathematics. As a result, the selection of topics in the book owes a lot to the different fashions in Russia.

What, therefore, does that mean for the intended audience of the book in North America? The level of exposition certainly requires, as the preface states, an understanding of analysis and linear algebra, such as a third or fourth year undergraduate student of mathematics would have. But it is not at all clear that "working scientists and engineers" will find what they need in this book. People from that constituency are usually seeking advice on how to solve real-life scientific or engineering problems efficiently, and want to know what software is available to help them. But it would be fun to teach a classical course to good mathematics majors using this book as a text.



The book is organised into four large sections dealing with interpolation and quadrature; systems of linear and nonlinear equations; differential equations (ordinary initial value equations and partial differential equations); boundary value problems. The concept of *saturation by smoothness*, a property of certain numerical methods, occurs throughout the book. I confess that this is, to me, an unfamiliar notion, but it is considered by the authors to be important enough that it is defined in the preface of the book. (Simply typing "saturated by smoothness" into Google results in approximately 350,000 hits, the eighth of which is this book. All the rest seem to have no connection to numerical analysis.) The concept is interesting and carefully explained.

In the first section on interpolation and quadrature there are several classical results. The presentation is clear, if a little heavy going in places. The absence of any discussion of Gauss-Kronrod formulas is disappointing since the most effective software for definite integration is based on such formulas. On the other hand, the material on Chebyshev polynomials is nicely presented.

The second section on linear and nonlinear equations does a reasonable job of covering the essentials of solving systems of linear equations and nonlinear systems. The chapter on nonlinear equations is, perhaps, rather brief, but it includes interesting and useful material. It is a little surprising that no material on computing eigenvalues and eigenvectors is discussed. In fact, the word *eigenvalue* does not even appear in the index.

The third section, on differential equations, is by far the longest section in the text. Many great classical results are discussed such as the Courant-Friedrichs-Lewy condition; the Babenko-Gelfand criterion; the Kreiss criterion. But, curiously, stiffness of ordinary differential equations, Backward Difference Methods, and implicit Runge-Kutta methods, for example, are omitted.

The last section is an interesting (though brief) introduction to the method of boundary elements. I would have liked to see more detail.

The lay-out makes the book at times difficult to read. For example, see page 160 where the conjugate gradient method is discussed. The discussion is largely carried out without any

continued page 28

A Mathematical Mosaic

by Ravi Vakil,
Brendan Kelly Publishing Inc., Burlington, Ont.,
288 pages, $19.95US ISBN 978-895997-28-6

Review by Richard Hoshino, Government of Canada.

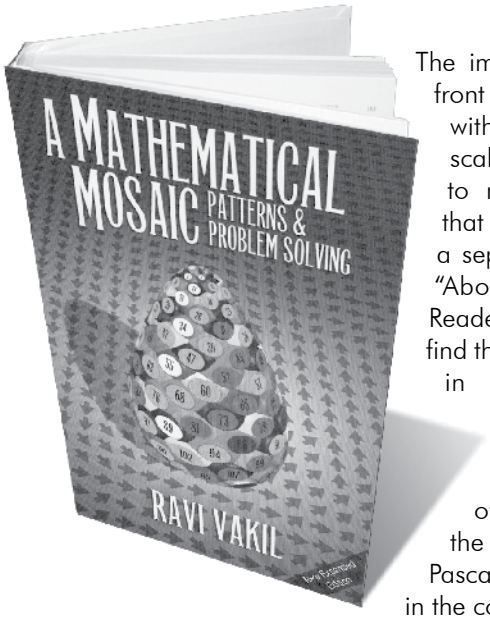
Ravi Vakil first published *A Mathematical Mosaic* at the age of 26, shortly before completing his PhD at Harvard University. To quote the words of the publisher, "Ravi Vakil's resumé reads like a dictionary of superlatives". In the original edition of the book, the publisher listed Ravi's numerous achievements and successes at mathematics competitions, winning two gold medals at the International Mathematical Olympiad and being a four-time Putnam Fellow.

In the twelve years since the original printing of *A Mathematical Mosaic*, the author has established himself as one of North America's leading mathematicians. Now in his late-thirties, Dr. Vakil is now a full professor at Stanford University, and has won numerous awards over his young professional career, including an NSF Career Fellowship, a Sloan Research Fellowship, and an American Mathematical Society Centennial Fellowship. He was also invited to the White House to accept the Presidential Early Career Award for Scientists and Engineers.

In addition to his outstanding research contributions, the author has had a long-standing dedication and commitment to mathematics education. Ravi has an excellent ability to explain difficult concepts in ways that non-specialists can understand; a way to gently introduce technical ideas and present them in ways that are accessible to a wide audience.

This gift of teaching is clearly evident in *A Mathematical Mosaic*, now in its second edition. In it the author shares his passion for what mathematics is truly about: beauty, elegance, and the discovery of deep and interconnected patterns. In each chapter there is a masterful overlay between recreational puzzles, historical context, "food for thought" problems, Olympiad-level questions for "experts only", as well as profiles of young mathematicians. In each chapter, there is something for everyone: hard problems for "mathletes" seeking to take their problem-solving to a new level; fun puzzles for math aficionados; and historical digressions for teachers wishing to add relevance and context to curriculum topics.

The book contains two chapters each on number theory, combinatorics, geometry, game theory, infinity, and the Fibonacci sequence. Also there are chapters on chessboard colourings, calculus, and complex numbers. As I recall, all of the chapters are the same as in the original edition, except that a new chapter has been added on complex numbers, expanded from the chapter on calculus. Various items have been added to the book's second edition, such as dual numbers and powers of imaginary numbers.



The image on the book's front cover, a pine cone with numbers on the scales, gives motivation to numerous problems that are mentioned in a separate page entitled "About the Cover". Readers are challenged to find the Fibonacci patterns in the scale labels, figure out the rule behind the 4-colour shading of the scales, find the Golden Mean and Pascal's triangle hidden in the cover, as well as other treasures that the author coyly mentions but deliberately omits. I was stuck on these puzzles for a while; naturally I was quite disappointed that the solutions to the cover problems do not appear anywhere in the book!

One of the chapters begins with the following problem, paraphrased for brevity: *two baseball teams are competing in the World Series. The two teams are evenly matched, and the first team to win four games wins the Series. Is it more likely that the World Series ends in six games or seven?*

Ravi then provides two solutions to the problem. The first, an inelegant solution involving probability trees, shows that the probability of a six-game Series is 5/16, the same as the probability of a seven-game Series. The brute force approach sets up the second solution, which is a slick one-paragraph argument. (For readers who do not know the clever solution, can you figure it out?)

Before launching into a discussion of Pascal's Triangle and providing some additional problems, Ravi poses a fascinating "Food for Thought" question to build up on the introductory problem in the chapter. The problem is included in this review for the reader:

In the last 50 World Series, there have been 10 Series that have ended in 6 games, and 22 Series that have ended in 7 games. We've shown theoretically that, if the teams were equally matched, the series would end equally often in 6 or 7 games. If they were not equally matched, the series should end sooner not later. So the actual history is completely unexpected! We have thus shown that some other factor must be at play. Can you think of reasons for the series to end more often in 7 games?

A wonderful aspect of the book is the end-of-chapter profiles of young mathematicians, some of whom appeared in the previous edition twelve years ago. These profiles provide an

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BRIEF BOOK REVIEWS

by Keith Johnson
Dalhousie University, Halifax

The Symmetries of Things

by John H. Conway, Heidi Burgiel, and Chaim Goodman-Strauss.
A.K. Peters Ltd, Wellesley MA 2008.
ISBN 978-1-56881-220-5
xviii + 426 pages $US 69.00.

Classifying and enumerating patterns on the basis of their symmetries has long fascinated mathematicians and artists. Burgiel, Conway and Goodman-Strauss delve deeply into this topic and have produced a book with both interesting mathematics (some of it new in this volume) and wonderful illustrations. The thesis of the book is that the right way to classify symmetry groups and patterns is via their associated orbifolds (à la Thurston). This is done systematically, first in one and two dimensions to give the familiar classifications of frieze and wallpaper patterns, then for colour patterns, then in higher dimensions. Towards the end the treatment is a bit sparse. Some references are incomplete (such as that for uniform nets, p.351, 420) and the 3-dimensional crystallographic groups are completely described only in the prime (or cubic) case. Nevertheless there is enough material here to entrance novice and expert alike.

A Course of Pure Mathematics (Centenary edition)

by G.H. Hardy,
Cambridge University Press, Cambridge, UK, 2008.
ISBN 978-0-521-72055-7 (paper)
xiv + 509 pages $45.00

It is hard to imagine that there is a mathematician working today who doesn't know of Hardy's *A Course of Pure Mathematics*. This classic is celebrating its 100th birthday and a 'centenary edition' has been issued by Cambridge University Press. The contents are, of course, unchanged—analysis as far as Fourier series presented with clarity and style—with a new introduction by T. W. Korner. What should be remarked at this milestone is the significance of this book. It showed generations of English speaking students of mathematics how beautiful our subject could be when presented with complete rigor, and if we think it too difficult for today's undergraduates perhaps we underestimate them. You wouldn't use this as an introductory textbook (Spivak's Calculus is one good choice for that) but consider referring your more serious students to it. It may open their eyes.

The Mathematics of Oz

by Clifford A. Pickover,
Cambridge Univ. Press, N.Y., 2002.
ISBN 978-0-521-70084-9 (paper)
xvi + 351 pages $US18.99.

Many professional mathematicians had their first taste of mathematics through mathematical puzzles and recreations such as those which for many years were presented in Martin Gardener's column in *Scientific American*. Clifford A. Pickover's *The Mathematics of Oz* is a recent addition to this genre. It contains 108 short tales and puzzles stitched together with a thin narrative involving Dorothy from L. Frank Baum's *The Wizard of Oz*. The narrative is in the spirit of Gardener's Dr. Matrix and whether you find this entertaining or annoying is a matter of taste. The puzzles cover a very wide range, from the elementary "What is the next element of this sequence" or "which member of this set doesn't belong "type to the well known Monty Hall and 3n +1 problems to some challenging problems involving fairly deep mathematics (usually from number theory). The book contains some flaws. There are some typographical errors (the Crimean War was not still going on in 1953 (p. 331), the first line of the solution to problem 55 is nonsense (p. 312)), some omitted assumptions (problem 61 neglects to mention that the desired solution should be an integer) and some misleading directions (the beginning of problem 9 asks for a solution to a system of diophantine equations of which, as revealed in the answers section, there is none). Nevertheless it also contains an array of little known and interesting problems, some of which are real gems. Among the latter is a problem and discussion of zebra irrational numbers incorporating results of Robert Israel of UBC and Peter Borwein and Loki Jörgenson of SFU.

Topology, Point-set and Geometric

by Paul Schick,
John Wiley and Sons Ltd., Hoboken, N.J. 2007.
ISBN 978-0-470-096055
xiii + 271 pages $US 99.95.

A course in point set topology is part of most undergraduate specialist programs in mathematics, giving a suitable foundation for courses in geometry, analysis or algebraic topology. Paul Schick's new book is a suitable text for such a course and incorporates a couple of attractive features. It does not, as is typical of books on this topic, start with a treatment of metric spaces but rather goes directly to the axioms for a topological space. It thus avoids the phenomena of students having to painfully unlearn ideas about topology that hold for metric spaces but not in general. It finishes with two chapters of geometric topology, which both restore some of the intuitive geometry to the subject and provide the topological tools needed for a subsequent course in complex analysis. In between are most of the usual topics (separation axioms, compactness, connectivity) although the treatment of product spaces is quite brief. The result is a textbook just right for a one term course.

Correction:

In the Research Committee Report published in May 2008 issue of the CMS NOTES (p. 15) the session *Mathematical Applications of Category Theory, organized by* F. W. Lawvere (Buffalo) and Walter Tholen (York) should have been included in the list of sessions and organizers for the CMS Winter 2007 Meeting.

EDUCATION NOTES

by Edward Barbeau
University of Toronto, Toronto

StepAhead: Correction

In the May, 2008 issue of these *NOTES*, an article by Leo Jonker, of Queen's University, described the *StepAhead* program. Unfortunately, the URL for the webpage was in error; an underscore after the slash should have been a tilde. The correct URL is
www.mast.queensu.ca/~stepahead.

I very much regret this error, and hope that the readers will now be able to take advantage of and contribute to the site.

The Ontario Departmentals

Recently, I came across my Grade 13 examination papers. In 1956, in order to receive an honours graduation diploma (formerly, senior matriculation) from high school, each Ontario student had to pass nine $2\frac{1}{2}$–hour examinations that were set by the Department of Education. The papers were set by a committee led by professors at the university, were written in June of the academic year and were marked during the summer by a group of professors and teachers gathered at a marking centre. After the marking, there was a report for each examination that discussed how the students performed and set out model answers and solutions. To help deal with extraordinary circumstances, before the examinations, each teacher submitted "confidential marks" for his/her students, which presumably helped the examiners in deciding to award aegrotat standing (for student missing an examination because of illness, for example) or to modify the mark of a student with an uncharacteristically bad performance.

Students headed for an honours program in science, engineering or mathematics, generally wrote three papers in mathematics (analytic geometry, algebra, trigonometry and statics), one paper in each of physics and chemistry, two papers in English (composition and literature) and two other papers, usually in French or German (composition and authors). Other examination subjects were: history (United States), geography, Spanish, Latin, Italian (each language with papers in composition and authors), Music, Secretarial Practice, Accountancy Practice and Mathematics of Investment. There was also a Problems paper in mathematics written by students who wanted to qualify for a university scholarship.

Candidates wrote the examinations in their schools, although centres were also set up at various universities, with a special centre at the University of Toronto, for "privately prepared candidates". Candidates in mathematics and physics were expected to bring "a ruler showing millimetres and sixteenths of an inch, a pair of compasses, and a protractor".

With all the discussion about and developments in education, it might be useful for readers to get some idea of what was expected of high school graduates a half-century ago. As they will see from the papers below, there was a significant amount of "book-work" along with some type problems that were more or less challenging. The syllabus did not include any calculus; proof by induction was an additional topic that was not examined (and probably not taught in many schools). There was a stronger emphasis on technical proficiency than is currently the case, while the modern syllabus puts more emphasis on problem-solving and mathematical modelling.

Several points can be made in favour of the regime in which these examinations occurred. They imposed a greater uniformity of instruction across the Province, which, on the one hand would have cramped the more innovative teachers, but on the other would have allowed for a democratization of the system, providing students in centres large and small equal access to matriculation and entrance to higher education. The mathematics courses had a much stronger focus and coherence than is currently the case, so that some depth of treatment was possible. The reader will notice in these examinations the absence of Euclidean geometry; this was the burden of an earlier mathematics course taken in either Grade XI or Grade XII depending on the school. Students could leave Grade XII with a high school graduation diploma (junior matriculation).

Department of Education, Ontario

Annual Examinations, 1956
GRADE XIII
ALGEBRA

NOTE. *A book of mathematical tables may be obtained from the Presiding Officer.*

1. (a) Find from first principles the sum of n terms of the geometric progression
$a + ar + ar^2 + \cdots$.
(b) The second term of a geometric progression is -10. Its sum to infinity is 9. Find the first and third terms of the series.

2. The sum of the first eight terms of an arithmetic progression is 136. The sum of its third and fourth terms is 26. Find the first term and the common difference.

3. (a) Solve the system of equations
$x^2 - 2y^2 = 17$,
$xy + 3y^2 = 2$.
(b) The roots of $3x^2 - 5x + 1 = 0$ are m and n. Find the quadratic equation whose roots are

$$\frac{1}{m^2}+1 \quad \text{and} \quad \frac{1}{n^2}+1.$$

4. (a) The number of oscillations made by a pendulum in a given time varies inversely as the square root of its length. A pendulum 49 inches long makes 2000 oscillations in a certain period of time. Find, to two significant figures, the amount by which the length of the pendulum should be altered so that it will make 1995 oscillations in the same period of time.

(b) If $$f(x) = \frac{8^x - 8^{-x}}{x}, \text{find } f(-2/3).$$

5. (a) The roots of $ax^2 + bx + c = 0$ are real and unequal. Prove that the function $ax^2 + bx + c$ has values opposite in sign from that of a if and only if x lies between the roots.
(b) Use the Factor Theorem to find values for k so that $3x^3 + k^2x^2 - 6kx - 16$ will have the factor $x+2$.

6. (a) For real values of x, find the minimum value of $5 - 3x + 2x^2$ and the corresponding value of x.
(b) For what values of x does $5 - 3x + 2x^2$ have the value 7?
(c) Use a sketch, appropriately labelled, to illustrate the results of (*a*) and (*b*).

7. In how many ways can an athletic board of 4 persons be chosen from 3 teachers and 12 boys, if the board must include at least one teacher?

8. Use the Binomial Theorem to find the first 4 terms of the expansion of

$$\frac{\sqrt{1-2x^2}}{\sqrt[3]{1+3x}}$$

as a series in ascending powers of x.

9. A bond for $1000 matures 10 years hence and carries semi-annual coupons of $17.50, the first of which is due 6 months hence. Find the price of this bond if the purchaser is to receive

5% per annum compounded semi-annually on his investment.

GEOMETRY

NOTE. *Squared paper may be obtained from the Presiding Officer*

1. A triangle has vertices at $A(2, 1)$, $B(-1,-2)$, and $C(-2, 5)$.
(a) Show the position of these points on a diagram drawn on squared paper.
(b) Find the equation of AB.
(c) Find the equation of the line through A perpendicular to BC.

2. (a) Give a definition, sufficiently comprehensive to be applied to any curve, of the tangent to a curve at a given point.
(b) Derive the equation of the tangent to the ellipse

$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1.$$

at the point (x_1, y_1) on the curve.
(c) Find the equations of the two tangents from the point $(-1, 1)$ to the curve $x^2 + 2y^2 = 2$.

3. (a) Write the equation for the family of circles each of which has with the circle $x^2 + y^2 - 2x = 3$ the line $x + y = 1$ as radical axis.
(b) Among the circles referred to in (a) find the one which passes through the point (1, 1).

4. (a) Define a hyperbola.
(b) Let $P(x, y)$ be a point on the hyperbola

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

Find the distance from P to the nearer asymptote, and prove that this distance becomes very small as x becomes very large.

5. The directrix of a parabola is the line $x+1 = 0$ and the focus is the point (1, 0). Prove that the equation of the parabola is $y^2 = 4x$ by showing
(i) that the coordinates of every point on the curve satisfy the equation, and
(ii) that every point whose coordinates satisfy the equation is actually on the curve.

6. (a) The line passing through the points $A(2, 5)$ and $B(1, 1)$ is cut by the circle $x^2 + y^2 = 9$ at the points P and Q. Find the ratios $AP : PB$, $AQ : QB$.
(b) Suppose that the line $Ax + By + C = 0$ divides the line segment joining (x_1, y_1) and (x_2, y_2) internally in the ratio $k : 1$. Find an expression for k and deduce that $Ax_1 + By_1 + C$ and $Ax_2 + By_2 + C$ must have opposite signs.

7. A symmetrical arch is constructed in the form of one part of a rectangular hyperbola. The height of the arch is 12 feet and the base of the arch is 36 feet. Find the height of the arch at a distance 10 feet from the midpoint of the base.

8. The points $A(-1, 0)$ and $B(1, 0)$ are the endpoints of a diameter of the circle $x^2 + y^2 = 1$, and M is a variable point on this circle. The line through B perpendicular to the tangent to the circle at M meets AM at P. Find the equation of the locus of P.

TRIGONOMETRY AND STATICS

NOTE. *The candidate should obtain a set of mathematical tables from the Presiding Officer.*

1. (a) Define *radian*.
(b) Find, correct to *four* significant figures, the radian measure of the supplement of 72°. ($\pi = 3.1416$)
(c) Assuming that $\log_{10} \pi = 0.49715$, express $\sqrt{\pi}$ as a power of 10.

2. If θ is an angle of the second quadrant, such that $\cos \theta = -3/5$, find, without using tables, the value of
(i) $\tan \theta$,
(ii) $\csc 2\theta$,
(iii) $\tan(\theta - 45°)$,
(iv) $\sin(\theta + 90°)$.

3. Three towns A, B, and C are located with respect to each other as follows: B is 36 miles due north of A; the bearings of C from A and B are, respectively, 30° east of north and 40° east of north. Calculate, correct to the nearest mile, the distance of C east of the line AB.

4. (a) For any triangle, ABC, prove that

$$\sin\frac{C}{2} = \sqrt{\frac{(s - a)(s - b)}{ab}},$$

where $2s = a + b + c$.
(b) A triangle ABC is such that $b = 42$, $c = 63$, $B = 27°$, and the angle C is obtuse. Calculate the angle A, correct to the nearest degree.

5. A tunnel is to be constructed through a mountain from a point A to a point B. Both A and B are visible from a third point C. The distances AC and BC are 384.8 feet and 555.6 feet, respectively, and the angle $ACB = 35° 24'$. *Using logarithms and formulas adapted to logarithms*, find the angles ABC and CAB, correct to the nearest minute.

6. (a) For any triangle, prove the formula

$$r = \frac{\Delta}{s}$$

for the radius of the inscribed circle of the triangle.
(b) If the permimeter of a right-angled triangle is 70 inches and the radius of the inscribed triangle is 6 inches, find the lengths of the sides of the triangle.

7. (a) State and prove a formula which transforms
$\sin A - \sin B$ into a product.
(b) Find, correct to the nearest minute, all the positive values of x, less than 360°, which satisfy the equation
$3 \cos 2x + \cos x + 1 = 0$.

8. A wheel of radius 10 inches has its centre at O. Four points A, B, C, D are selected on the rim of the wheel so that angle $AOB = 60°$, angle $BOC = 90°$, and angle $COD = 90°$. Three forces, $F_1 = 30$ pounds, $F2 = 20$ pounds, $F3 = 40$ pounds, act along AB, AC, and AD, respectively, in the directions indicated by the letters.
(a) Find, to the nearest degree, the angle between AO and the direction of the resultant of F_1, F_2, F_3.
(b) Calculate, correct to *two* significant figures, the algebraic sum of the moments of F_1, F_2, and F_3 about O.

9. A tapering beam, 15 feet long and weighting 20 pounds, rests against a smooth vertical wall. The upper end is 9 feet from the ground and the lower end is prevented from slipping by a peg driven into the ground. If the centre of gravity of the beam is 6 feet from the lower end, calculate, correct to the nearest pound,
(i) the reaction of the wall,
(ii) the resultant reaction at the peg.

PROBLEMS

(To be taken only by candidates writing for certain University Scholarships involving Mathematics)

NOTE 1. *Ten questions constitute a full paper.*

NOTE 2. *A supply of squared paper and a book of mathematical tables may be obtained from the Presiding Officer.*

1. (a) If in a certain equation it is found that when x is replaced by $2-x$ the equation remains unchanged, what can be concluded about the curve represented by the equation?
(b) If in the equation of a given curve the letters x and y are interchanged, a new equation representing some new curve is

obtained. State the relationship between the new curve and the old.

2. Assume that the tangent at a point P on a parabola is the right bisector of the line joining the focus to the foot of the perpendicular from P on the directrix. Deduce that if a parabola rolls without slipping on another parabola of the same size so that the parabolas touch each other at corresponding points, the locus of the focus of the moving parabola is the directrix of the fixed parabola.

3. If an ellipse rolls without slipping on another ellipse of the same size so that so that the ellipses touch at corresponding points, prove that the locus of the focus of the moving ellipse is a circle with centre at one of the foci of the fixed ellipse.

4. Points $A(1, 0)$, $B(2, 0)$, $C(4, 0)$, and $A'(0, 1)$, $B'(0, 3/2)$, $C'(0, 2)$ are given.

(a) Prove that the intersections of AB' and A'B, AC' and A'C, BC' and B'C are collinear.

(b) What may be said concerning AA', BB', CC'?

(c) State the relationship of the two triangles AB'C and A'BC' in general terms.

5. A man walking along a straight road sees two objects X and Y in line with him in a direction making an angle θ with the road. After walking a distance a along the road he observes that X and Y subtend the angle θ at his eye, and after walking an additional distance b that these objects subtend the same angle θ. Find the distance between X and Y in terms of a, b, and θ.

6. If

$$\cos^{-1} x + \cos^{-1} y + \cos^{-1} z = \pi,$$

prove that

$$x^2 + y^2 + z^2 + 2xyz = 1.$$

7. Three forces act along the sides of a triangle ABC in the directions indicated by BC, CA, and AB. If their resultant passes through the centres of the inscribed and circumscribed circles of the triangle, prove that the magnitudes of the three forces are proportional, respectively, to

$$(s - a)(b - c),\ (s - b)(c - a),\ (s - c)(a - b)\ ,$$

where $2s = a + b + c$.

8. (a) Prove the relation $\log_b x = \log_a x \cdot \log_b a$.

(b) Given that $\log_b 10 = 2.3026$, calculate $\log_{100} b$, correct to *four* places of decimals.

9. In how many ways can 20 pencils be selected from an unlimited supply of 4 different kinds, if at least one of each kind must be chosen?

10. If the roots of $x^3 + px^2 + qx + r = 0$ are in geometric progression, show that $p^3 r = q^3$.

11. Show that when a polynomial $f(x)$ is divided by $(x-a)(x-b)$ the remainder will not contain a constant term if

$$\frac{a}{b} = \frac{f(a)}{f(b)}.$$

12. If $f(x) = \dfrac{ax + b}{cx + d}$, find the condition that $f[f(x)] = x$ for all values of x.

EMPLOYMENT OPPORTUNITY

UNIVERSITÉ D'OTTAWA

Son emplacement stratégique au coeur de la capitale du pays, la grande variété de ses programmes d'enseignement et de recherche, offerts dans les deux langues officielles du Canada, sa diversité croissante ainsi que sa perspective nationale font de l'Université d'Ottawa « l'Université canadienne » par excellence.

Le Département de mathématiques et de statistique de l'Université d'Ottawa met au concours au moins deux postes menant à la permanence, l'un au rang de professeur adjoint et l'autre au rang de professeur adjoint ou de professeur agrégé. Entrée en fonction: le 1er juillet 2009. Pour le rang de professeur adjoint, nous recherchons des candidats avec au moins une année d'expérience postdoctorale. Pour le rang de professeur agrégé, la personne choisie devra avoir fait ses preuves tant comme chercheur que comme enseignant, et ce à tous les niveaux. En particulier elle devra être en mesure de diriger des étudiants de deuxième et troisième cycle dès son entrée en fonction. Nous encourageons les candidat(e)s dans tous les domaines des mathématiques et de statistique à postuler, cependant pour un des postes, nous donnerons priorité aux candidat(e)s dont le domaine de recherche est en algèbre.

Les candidat(e)s doivent faire parvenir leur dossier de candidature au directeur du département, Victor LeBlanc, Département de mathématiques et de statistique, Université d'Ottawa, Ottawa ON Canada, K1N 6N5. Les dossiers doivent comprendre un curriculum vitae, un plan de recherche ainsi que quatre lettres de recommandation confidentielles dont une portant sur l'enseignement. Nous encourageons les candidat(e)s à joindre à leur dossier jusqu'à trois tirés-à-part de leurs contributions les plus importantes. La date limite de réception de candidatures est le **7 novembre 2008**. Nous accepterons toutefois les applications tardives tant que les postes n'auront pas été comblés.

Les conditions d'emploi sont déterminées par une convention collective. L'université a une politique d'équité en matière d'emploi. Les femmes sont fortement encouragées à poser leur candidature. On étudiera d'abord les demandes des citoyens canadiens et des résidents permanents.

Pour plus de renseignements voir **http://www.mathstat.uottawa.ca**

2008 Krieger-Nelson Prize

Dr. Izabella J. Łaba (University of British Columbia)

Izabella Łaba has established a position as one of Canada's leading harmonic analysts. She has made major contributions to the Kakeya problem, and to the study of translational tilings and distance sets.

Anthony Lau, Izabella J. Łaba and Tom Salisbury

Although her current work is in harmonic analysis, Łaba began her career working in on N-body scattering theory in mathematical physics. After obtaining her Ph.D. in 1994 at the University of Toronto with Michael Sigal she first attracted attention with her proof (with Christian Gérard) of asymptotic completeness for a large class of N-body systems in the presence of a magnetic field. This work became the subject of a monograph in the AMS mathematical surveys and monographs series.

During her time as Hedrick Assistant Professor at UCLA, Łaba's interests turned to harmonic analysis. A central problem in this field is the Kakeya conjecture concerning Besicovitch sets. A Besicovitch set is a subset of n-dimensional Euclidean space containing a line segment in every direction. The Kakeya conjecture states that such a set must have Minkowski and Hausdorff dimension n. This conjecture is linked to important open problems in harmonic analysis like the restriction conjecture and the Bochner-Riesz conjecture. To date, the best known lower bound on the dimension of a Besicovitch set in three dimensions is due to Katz, Łaba and Tao.

After her time at University of California at Los Angeles (UCLA), Łaba moved to Princeton and then in 2000 to the University of British Columbia where she was promoted to full Professor in 2005. Here she has continued her work in harmonic analysis, with important results in study of translational tilings and distance sets.

In addition to her research articles and the monograph mentioned above, Łaba (with Carol Shubin) co-edited Thomas Wolff's "Lectures in Harmonic Analysis", the best known lower bound on the Minkowski dimension of which he had left uncompleted at the time of his death.

Łaba's outstanding work has been recognized with a University of British Columbia Faculty of Science Achievement Award for Research in 2002 and the CMS Coxeter-James Prize in 2004.

Prix Krieger-Nelson 2008

Dr. Izabella J. Łaba (Université de Colombie-Britannique)

Izabella Łaba s'est taillé une place parmi les sommités canadiennes de l'analyse harmonique. Elle a fait d'importantes contributions au problème de Kakeya ainsi qu'à l'étude des pavages translationnels et ensembles de distances.

Même si elle travaille en ce moment en analyse harmonique, Izabella Łaba a entrepris sa carrière en s'intéressant à la théorie de la diffusion de N-particules en physique mathématique. Après avoir obtenu son doctorat en 1994 à l'Université de Toronto, sous la direction de Michael Sigal, elle a d'abord retenu l'attention avec sa preuve (élaborée avec Christian Gérard) de la complétude asymptotique pour une grande classe des systèmes à N-corps interagissant dans un champ magnétique constant. Ces travaux ont fait l'objet d'une monographie dans la collection « Mathematical surveys and monographs » de l'AMS.

Pendant qu'elle était professeure adjointe titulaire d'une bourse Hedrick à UCLA, Izabella Łaba a commencé à s'intéresser à l'analyse harmonique. L'un des grands problèmes dans ce domaine est la conjecture de Kakeya sur les ensembles de Besicovitch. Un ensemble de Besicovitch est un sous-ensemble d'un espace Euclidien de dimension n contenant un segment de droite dans chaque direction. La conjecture de Kakeya déclare qu'un tel ensemble doit avoir n comme la dimension de Minkowski et Hausdorff. Cette conjecture est associée à d'importants problèmes non résolus en analyse harmonique, comme la conjecture de la restriction et la conjecture de Bochner-Riesz. Jusqu'à date, la meilleure borne inférieure connue de la dimension d'un ensemble de Besicovitch à trois dimensions est due à Katz, Łaba et Tao.

Après son passage à UCLA, Izabelle Łaba est passée à Princeton, puis à l'Université de la Colombie Britannique en 2000, où elle est devenue professeure titulaire en 2005. Elle y a poursuivi ses travaux en analyse harmonique et a obtenu des résultats importants dans le domaine des pavages translationnels et ensembles de distances.

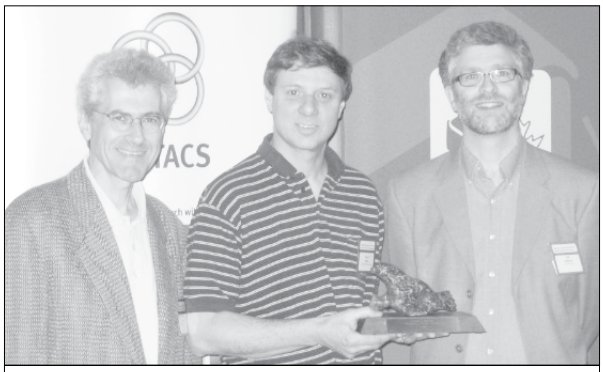
Outre ses articles scientifiques et la monographie susmentionnée, Izabella Łaba (en collaboration avec Carol Shubin) a travaillé à la révision des Lectures in Harmonic Analysis de Thomas Wolff, dont la limite inférieure la plus connue de la dimension de Minkowski est demeurée inachevée au décès de l'auteur.

Les travaux exceptionnels d'Izabella Łaba ont été récompensés par un prix d'excellence de la Faculté des sciences de UBC en 2002 et le prix Coxeter-James de la SMC en 2004.

2008 Jeffery-Williams Prize

Dr. Martin T. Barlow (University of British Columbia)

Professor Martin Barlow is the leading international expert in the study of diffusions on fractals and other disordered media. He has made a number of profound contributions to a variety of fields including probabilistic methods in partial differential equations, stochastic differential equations, filtration enlargement, local times, measure-valued diffusions and mathematical finance.



Edward Bierstone, Martin T. Barlow and Tom Salisbury

In the 1980's he resolved a thirty year old problem with his derivation of necessary and sufficient conditions (the latter with John Hawkes) for the continuity of local time of a Lévy process. This was the resolution of a problem which had attracted the efforts of Hale Trotter, Ronald Getoor and Harry Kesten among others.

In the 1990's he carried out a detailed study of diffusions on a variety of fractal-like sets and derived precise upper and lower bounds on their heat kernels. This work laid the groundwork for a new area of study in probability which has attracted experts in Dirichlet forms, diffusions on manifolds and statistical mechanics. He currently is at the forefront of a program to study the transport properties of a broad class of graphs and manifolds. The original motivation for the study of diffusion on fractals came from the physics community who were interested in more general disordered random media but viewed typical fractals like the Sierpinski carpets and gaskets as good testing grounds for highly inhomogeneous media. Thanks in large part to the pioneering efforts of Martin Barlow the discipline has reached the point where the original objectives of the physicists are now within mathematical reach. Barlow remains at the leading edge of this research with his recent work giving sharp results for the behaviour of transition probabilities for random walks on super-critical percolation clusters.

Martin Barlow received his undergraduate degree from Cambridge University in 1975 and completed his Doctoral degree with David Williams at the University College of Swansea in Wales in 1978. He held a Royal Society University Research Fellowship at Cambridge University from 1985 to 1992, when he joined the Mathematics Department at University of British Columbia. He currently is Professor of Mathematics at UBC. He has held a number of visiting professorships at leading universities including University of Tokyo, Cornell University, Imperial College, London, and Université de Paris.

Past distinctions include the Rollo Davidson Prize from Cambridge University, the Junior Whitehead Prize from the London Mathematical Society and an invited lecture at the 1990 ICM in Kyoto. He has served the Canadian mathematical community on the Research Committee of the CMS and on the Editorial Board of the Canadian Journal Mathematics and the Canadian Mathematical Bulletin. He also has served on a number of international panels and editorial boards and recently finished a term as Editor-in-Chief of Electronic Communications in Probability. He is a Fellow of the Royal Society of Canada and in 2006 was elected Fellow of the Royal Society (London).

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Le professeur Martin Barlow est la sommité internationale de l'étude de diffusions sur les fractales et autres milieux désordonnés. Il a fait de nombreuses contributions importantes dans divers domaines, dont les méthodes probabilistes pour les équations différentielles partielles, les équations différentielles stochastiques, élargissement de filtration, temps locaux, diffusions à valeurs mesurées et les finances mathématiques.

Prix Jeffery-Williams 2008

Dr. Martin T. Barlow (Université de Colombie-Britannique)

Dans les années 1980, il a résolu un problème qui datait de 30 ans avec sa dérivation des conditions nécessaires et suffisantes (cette dernière avec John Hawkes) pour la continuité du temps local d'un processus de Lévy. Il a résolu un problème qu'avaient tenté de résoudre plusieurs autres avant lui, notamment Hale Trotter, Ronald Getoor et Harry Kesten.

Dans les années 1990, il a réalisé une étude détaillée concernant les diffusions sur une variété des ensembles quasi-fractals et a obtenu des bornes supérieure et inférieure précises sur leurs noyaux de la chaleur. Ces travaux ont ouvert la voie à un nouveau domaine d'études en probabilité, qui a attiré des spécialistes des formes de Dirichlet, diffusions sur des variétés et de la mécanique statistique. Il est actuellement au premier rang d'un programme pour étudier les propriétés de transport d'une large classe des graphes et des variétés. La motivation originale pour l'étude de la diffusion sur les fractales est venue de la communauté de physiciens qui étaient intéressés par des milieux aléatoires désordonnés plus généraux mais ont vu des fractales typiques comme les tapis et les tamis de Sierpinski comme des bons terrains d'essai pour des milieux fortement non homogènes.

C'est en grande partie grâce au travail de pionnier de Martin Barlow que la discipline a atteint un point où les objectifs originaux des physiciens sont désormais à la portée des mathématiques. Martin Barlow demeure à la fine pointe de ce domaine de recherche grâce à ses travaux récents qui ont produit des résultats très précis sur le comportement des probabilités de transition pour les marches aléatoires sur les agrégats de percolation super critiques.

Martin Barlow a obtenu son baccalauréat de l'Université Cambridge en 1975 et a terminé son doctorat, sous la direction de David Williams, au Collège universitaire de Swansea au pays de Galles en 1978. Il a bénéficié d'une bourse de recherche (Royal Society University Research Fellowship) à Cambridge de 1985 à 1992, et s'est ensuite joint à l'équipe du Département de mathématiques de l'Université de la Colombie-Britannique (UBC), où il est professeur de mathématiques en ce moment. Il a souvent été invité par de grandes universités, dont l'Université de Tokyo, l'Université Cornell, l'Imperial College de Londres et l'Université de Paris.

Martin Barlow a reçu le prix Rollo Davidson de l'Université Cambridge, le prix Junior Whitehead de la Société mathématique londonienne et un prix de conférence au Congrès international des mathématiciens 1990 tenu à Kyoto. Au sein de la communauté mathématique canadienne, il a siégé au Comité de la recherche de la SMC et au conseil de rédaction du Journal canadien de mathématiques et du Bulletin canadien de mathématiques. Il a également siégé à de nombreux panels internationaux et conseils de rédaction, et il vient de terminer un mandat de rédacteur en chef pour Electronic Communications in Probability. Il est membre de la Société royale du Canada et il a été élu membre de la Société royale (de Londres) en 2006.

2008 Excellence in Teaching Award

Dr. Edward Bierstone (University of Toronto)

Joseph Khoury, Edward Bierstone and Tom Salisbury

"Ed Bierstone is a professor who demands a lot from his students, inspiring the best to go on to do great things, while at the same time consistently scoring high in teaching evaluations and getting great comments", said Jeremy Quastel, the Department's Acting Chair. His colleagues describe as "extraordinary" the influence he has on generations of students who have passed through the Mathematics Specialist program, many of whom themselves have gone on to become great educators and researchers. They also praise his enthusiasm for teaching students at all levels in Mathematics, Engineering and other programs. His former students cite him as a mentor and inspirational role model. They praise his clear presentations to a point where one student decided last year to type up 60 pages of lecture notes, because "the exposition cannot be lost!" Students always comment on how well prepared he is, how his enthusiasm engenders inspiration, how helpful and generous he is with his time and how skillful he is in unlocking the textbooks mysteries around very difficult topics.

"Throughout his many years at the University of Toronto, Professor Edward Bierstone has asked of his students only what he asked from himself: to strive enthusiastically on the endless road to excellence" said Mike Lorimer, former Associate Chair for Undergraduates.

Professor Bierstone's unwavering commitment to education goes beyond his teaching. During his mandate as Undergraduate Chair, he instituted some major changes by introducing the specialist program "Mathematics and its Applications" which created opportunities for students to combine mathematics with concentrations in areas like teaching, finance or a "design-your-own" program. Each summer he supervises several NSERC or UTEAS (University of Toronto Excellence Award) summer research students. He is currently involved in Curriculum review and renewal at the Faculty of Arts and Science at the University of Toronto.

Professor Bierstone's distinguished contribution to teaching has been recognized by the University of Toronto through the Faculty of Art and Science Outstanding Teaching Award in 1996.

Edward Bierstone completed his undergraduate studies at the University of Toronto and his graduate studies at Brandeis University where he obtained his Ph.D. in 1973, the same year he joined the Department of Mathematics at the University of Toronto. Professor Bierstone has held visiting professor positions and has been a distinguished invited lecturer in many top institutions. His research interests are in algebraic and analytic geometry, resolution of singularities, and analysis on singular spaces. He was elected a Fellow of the Royal Society of Canada in 1992, is a Founding Fellow of the Fields Institute (2002) and was the 2005 winner of the Jeffery-Williams Prize of the Canadian Mathematical Society.

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Prix d'excellence en enseignement 2008

Dr. Edward Bierstone (Université de Toronto)

"Ed Bierstone est un professeur qui demande beaucoup de ses étudiants, inspirant les meilleurs à réaliser de grands accomplissements, tout en continuant à maintenir un excellent niveau d'évaluations d'enseignement et des commentaires exceptionnels de la part des étudiants", dit Jeremy Quastel, le directeur intérim du département. Ses collègues décrivent comme "extraordinaire" l'impact qu'il a eu sur les générations des étudiants qui ont suivi le programme de spécialisation en mathématiques, plusieurs de ces étudiants sont devenus des grands éducateurs et chercheurs. Ils apprécient également son enthousiasme à enseigner à tous les niveaux en mathématiques, génie et d'autres programmes. Ses anciens étudiants le décrivent comme un mentor et un modèle. Ils apprécient tellement ses présentations claires à un point où un étudiant a été motivé l'année dernière à taper jusqu'à 60 pages des notes de cours, parce que "l'exposition ne peut pas être perdue !" Les étudiants soulignent souvent à quel point il est toujours préparé pour ses cours, ils parlent de l'inspiration engendrée par son enthousiasme, de sa générosité et efficacité avec ses étudiants et de sa capacité à démystifier les détails, parfois très compliqués, des concepts mathématiques qu'ils rencontrent dans leurs manuels.

"Pendant ses nombreuses années à l'Université de Toronto, professeur Edward Bierstone a demandé de ses étudiants, seulement ce qu'il a demandé toujours de lui-même: Exceller avec enthousiasme sur le chemin sans limites menant à l'excellence" dit professeur Mike Lorimer, directeur associé aux études de 1er cycle.

L'engagement immuable de professeur Bierstone à l'éducation va au delà de son enseignement. Pendant son mandat comme directeur des études de 1er cycle, il a institué quelques changements principaux en présentant le programme spécialisé "les mathématiques et ses applications" qui a donné aux étudiants la possibilité de combiner un diplôme en mathématiques avec des concentrations dans d'autres domaines comme l'enseignement, la finance ou un programme structuré par l'étudiant lui-même. Il parvient également chaque été à trouver le temps pour superviser et diriger les projets de recherche de plusieurs étudiants de CRSNG ou d'UTAES (prix d'excellence de l'Université de Toronto). Il est actuellement impliqué dans la revue et la modernisation du Curriculum à la faculté des arts et des Sciences à l'Université de Toronto.

La contribution exceptionnelle à l'enseignement du professeur Bierstone a été déjà reconnue par l'Université de Toronto, plus notamment en 1996 où il a remporté le prix de Distinction en enseignement de la faculté des arts et des sciences.

Edward Bierstone a complété ses études de 1er cycle à l'Université de Toronto et ses études supérieures à l'Université Brandies où il a obtenu son doctorat. en 1973, la même année où il s'est joint au département de mathématiques de l'Université de Toronto. Professeur Bierstone a tenu plusieurs positions de professeur visiteur et a été un conférencier invité distingué à plusieurs institutions majeures. La recherche de professeur Bierstone est dans le domaine de la géométrie algébrique et analytique, la résolution des singularités et l'analyse sur les espaces singuliers. Il était élu un membre de la société royale du Canada en 1992, il est un membre fondateur de l'institut Field (2002), et a remporté le prix de Jeffery-Williams de la société mathématique du Canada en 2005.

CMS Winter Meeting 2008
Marriott Hotel, Ottawa (Ontario)
December 6 – 8
www.cms.math.ca
Host: Carleton University

Meeting Directors: Matthias Neufang and Benjamin Steinberg (Carleton)

On behalf of Carleton University (www.carleton.ca), the School of Mathematics and Statistics invites the mathematical community to the CMS Winter Meeting 2008. The program will include eleven plenary, prize and public lectures, and a wide variety of sessions, including a Contributed Paper session.

All scientific talks and social activities will take place at the **Ottawa Marriott Hotel, located at 100 Kent Street, Ottawa.**

The CMS Committee for Women in Mathematics is organizing the 4th workshop of **Connecting Women in Mathematics Across Canada** (CWiMAC 2008). The purpose of the CWiMAC workshops is to support the career development of junior female academics in the Canadian mathematics community. CWiMAC 2008 will take place at the University of Ottawa on December 4 and 5, 2008.

Prizes and Awards

Coxeter-James Prize - Ravi Vakil (Stanford University)
Doctoral Prize - Matthew Greenberg (Calgary)
Adrien Pouliot Award- Harley Weston (Regina)
G. de B. Robinson Award - to be announced
David Borwein Distinguished Career Award - Hermann Brunner (Memorial, ETH Zurich)

Plenary Speakers

David Acheson (Oxford)
Fan Chung (UC San Diego)
Gilles Godefroy (Paris)
Sorin Popa (UCLA)
Laurent Saloff-Coste (Cornell)
Mark Sapir (Vanderbilt)
Keith Taylor (Dalhousie)

Public Lecture

Patrick Hayden (McGill)

Business Meetings

Executive Committee Meeting: Thursday, December 4; Marriott, Sussex Room
Development Group Luncheon: Friday, December 5; Marriott, Laurier Room
Board of Directors Meeting: Friday, December 5; Marriott, Cartier III Room

Social Events

Welcoming Reception: Friday, December 5; Marriott
Banquet: Saturday, December 6; Marriott, Ballroom
Complimentary coffee and juice will be available during the scheduled breaks.

Registration

The registration form is available at www.cms.math.ca/Events.

Registration fees are given in Canadian dollars. Payment may be made by cheque (Canadian or US dollars), or by VISA or MasterCard. To qualify for the reduced rate, payment must be received by September 30; for the registration to be processed before the meeting, payment must be received by November 25. Receipts will be provided at the meeting.

	ONLINE		ONSITE
	Early rate until Sep 30	Regular rate Oct 1 - Nov 25	
Prize Lecturer (incl. 2 free banquet tickets)	$ 0	$ 0	$ 0
Plenary, Public Lecturer (incl. 1 free banquet ticket)	$ 0	$ 0	$ 0
Students	$95	$125	$150
Postdoc, Retired, K-12 Teachers, Unemployed	$150	$175	$200
CMS members, Organizers, Speakers	$295	$345	$395
Non-Members	$445	$495	$545
One-day fee (onsite only)	-	-	$175
Banquet ticket	$ 60	$ 60	$ 60

Advantages to Pre-Registration:

- Reduced fees for early registration until September 30
- Your name appears on the list of participants on the meeting web site
- Your Meeting Package is waiting for you at the reception on Friday evening
- No waiting in line early Saturday morning to process your registration!
- Banquet tickets are available now but may no longer be available on site

Refund Policy

Participants wishing to cancel their registration must notify the CMS (meetings@cms.math.ca) in writing by November 25 to receive a refund less a $40 processing fee. Those whose contributed paper has not been accepted will upon request be fully refunded.

Submission of Abstracts

For abstracts of talks to be published on-line and in the meeting programme, they have to be submitted by October 15, 2008, using the on-line form at cms.math.ca/forms/abs-w08. The organizers appreciate the cooperation of all speakers in observing this important deadline.

Accommodation

The hotel listed below is offering rooms at a reduced group rate during the conference as well as three days prior and three days after the conference. To be eligible for the reduced room rates, participants must make their reservations before the date indicated, quoting the group code. Reservations made after the deadline will be on a space available basis and the group rate may no longer apply.
Rates are per room per night and are quoted in Canadian

dollars. Reservations must be guaranteed by a one-night deposit or a major credit card. It is recommended to clarify payment and cancellation policies when making the reservation, as these vary from hotel to hotel.

Ottawa Marriott Hotel (www.ottawamarriott.com)
100 Kent Street, Ottawa, ON, K1P 5R7
Phone: 613-238-1122 or 1-800- 853 8463, Fax: 613-783-4229

All meeting participants who complete their hotel booking at the Marriott Hotel by October 31 will be entered into a draw for the following prizes:
- One complimentary Sunday Brunch for two in the Merlot Rooftop Grill
- One complimentary Dinner for two in the Toulouse Restaurant
- One complimentary one night weekend stay at the Marriott Hotel

Booking deadline: November 4, 2008
Group code: CMSCMSA

Rates:
Room rate includes high-speed internet access and complimentary local phone calls.
Traditional Guest Room (two double beds or one king size bed) - $139
Single or double occupancy; $10 for each addtitional person for triple and quadruple occupancy.
Applicable taxes: 5% GST (refundable to non-residents of Canada), 6% Provincial Sales Tax, 3% Destination Marketing Fee.

No pets are allowed in the guest rooms
Hotel provides a 100% smoke-free environment
Children under 18 may stay for free in their parent's room.
Child care can be arranged through the front desk.
Parking: Self-parking: $20 per day $6 per hour; Valet-parking: $25 per day
Check-in: 3:00 pm
Check-out: 1:00 pm

For student accommodation, please contact the Meetings Coordinator at meetings@cms.math.ca.

Travel

A taxi fare from the airport to downtown costs approximately $25.
The fare for the shuttle bus is $8 one-way and $16 return. This is a special group rate, please identify yourself as a participant of this conference when you purchase the ticket. The regular rate is $14 one way and $24 return. A schedule is available at www.yowshuttle.com.

Detailed information regarding Carleton University, the city of Ottawa, and the province of Ontario including tourism information, local weather and climate, site and street maps, and itineraries for self-guided tours, are available at the following websites:

- Carleton University (www.carleton.ca)
- Ottawa Tourism (www.ottawatourism.ca)
- Ontario Travel (www.ontariotravel.net)
- Canada Weather Forecast (www.weatheroffice.ec.gc.ca)

Graduate Student Travel Support

Limited funds are available to partially fund the travel and accommodation costs for bona fide graduate students at a Canadian or other university. Preference is given to Canadian students. To apply for this funding, applicants should submit a letter written by their supervisor or departmental graduate advisor, providing the following: name of student, area of study and level, how the student will benefit from the meeting, whether or not the student be speaking, and what support is available from other sources.

This letter should be sent before October 15, 2008 to gradtravel-w08@cms.math.ca. Applicants will be notified in late October of the funding decision.
If successful, the student will receive a cheque for reimbursement of expenses after the meeting and upon completion and submission of the standard Travel Expense Claim Form, along with appropriate original receipts.

For more information, please contact the Meeting Committee at gradtravel-w08@cms.math.ca.
For Student accommodation, contact the Meeting Coordinator (meetings@cms.math.ca).

Exhibits

Exhibits will be open from 9:30 am to 4:00 pm on Saturday and Sunday in the Victoria South Room.
The Joint Exhibit features books and other products from publishers and other companies and organizations not represented at the meeting. Order forms will be available at the exhibit for your convenience. We will forward any orders to the corresponding company after the meeting. Books and other materials that will be displayed at this Joint Exhibit will be donated to the host university.

We invite participants to visit the CMS Membership Booth and Book Display, located in the registration area. A representative will be available from 9:30 am to 4:00 pm to answer questions about membership, publications, and other programs.

Sponsors

Support from the following is gratefully acknowledged. Additional information regarding support for this meeting will be posted to the meeting web site as it becomes available.

le Centre de Recherches Mathématiques
The Fields Institute
MITACS
Pacific Institute for the Mathematical Sciences
Carleton University
- Dean of Science
- Vice President, Research
- Vice President, Academics

The Canadian Mathematical Society wishes to acknowledge the contributions of the Meeting Directors and the Session Organizers.

SESSIONS

Algebraic Combinatorics
Combinatoire algébrique
Org: François Bergeron, Srecko Brlek, Christophe Hohlweg, Christophe Reutenauer (UQAM)

Nantel Bergeron (York), Ira Gessel (Brandeis), Janvien Nzeutchap (Fieldas), Alex Postnikov (MIT).

Algorithmic Mathematics
Mathématiques Algorithmiques
Org: Prosenjit Bose, Evangelos Kranakis (Carleton)

Stephane Durocher (Waterloo), Paola Flocchini (Ottawa), Constantinos Georgiou (Toronto), Michel Paquette (Carleton).

Applied Partial Differential Equations
Equations aux Dérivées Partielles Appliquées
Org: David Amundsen (Carleton), Lucy Campbell (Carleton), Francis Poulin (Waterloo)

Yves Bourgault (Ottawa), John Bowman (Alberta), Paul Choboter (California Polytechnic), Serge D'Alessio (Waterloo), Michael Haslam (York), Nicholas Kevlahan (McMaster), Boualem Khouider (Victoria), Greg Lewis (UOIT), Emmanuel Lorin (UOIT), Ming Mei (Champlain College; McGill), Abbas Momeni (Queen's), Arian Novruzi (Ottawa), Chun Hua Ou (Memorial), Francis Poulin (Waterloo), Bartosz Protas (McMaster), Marek Stastna (Waterloo), Gordon Swaters (Alberta), Michael Waite (Victoria).

Banach Spaces
Espaces de Banach
Org: Robb Fry (Thompson Rivers), Srinivasa Swaminathan (Dalhousie)

Razvan Anisca (Lakehead), Maxim Burke (Prince Edward Island), Stephen Dilworth (South Carolina), Petr Hajek (Czech Mathematical Inst.), Nigel Kalton (Missouri), Lee Keener (UNBC), Edward Odell (Texas - Austin), Thomas Schlumprecht (Texas A&M), Richard Smith (Czech Mathematical Inst.), Thomas Stromberg (Lund U., Sweden).

Combinatorics
Combinatoire
Org: Daniel Panario, Brett Stevens (Carleton)

Ada Chan (York), Clement Iam (Concordia), Charlie Colburne (Arizona State), Peter Dukes (Victoria), Zhicheng Gao (Carleton), Penny Haxell (Waterloo), Jeannette Janssen (Dalhousie), Karen Meagher (Regina), Lucia Moura (Ottawa), Reza Naserasr (Carleton), Alex Rosa (McMaster), Frank Ruskey (Victoria), Mateja Sajna (Ottawa), Doug Stinson (Waterloo), Cathy Yan (Texas A&M), Joe Yucas (Southern Illinois), Wenan Zang (Hong Kong).

Commutative Algebra and Algebraic Geometry
Algèbre Commutative et Géometrie Algebrique
Org: Sara Faridi (Dalhousie), Anthony V. Geramita (Queen's)

Tristram Bogart (Queen's), Ragnar-Olaf Buchweitz (Toronto), Enrico Carlini (Politecnico di Torino), Jaydeep Chipalkatti (Manitoba), Brian Coolen (St. Francis Xavier), Susan Cooper (California Polytechnic State U.), Kia Dalili (Missouri), Laura Ghezzi (CUNY), Tai Huy Ha (Tulane), Brian Harbourne (Nebraska), Graham Leuschke (Syracuse), Juan Migliore (Notre Dame), Claudia Miller (Syracuse), Peter Russell (McGill), Yong-Su Shin (Sungshin Women's U.), Greg Smith (Queen's), Mike Stillman (Cornell), Will Traves (US Naval Academy), Adam Van Tuyl (Lakehead), Fabrizio Zanello (Michigan Technological U.).

Cryptography and Coding Theory
Cryptographie et théorie des codes
Org: Isabelle Déchène, Ariane Masuda, Monica Nevins

Robert Bailey (Carleton), Mark Bauer (Calgary), Michael Jacobson (Calgary), David Jao (Waterloo), Atefeh Mashatan (Waterloo), Kumar Murty (Toronto), Daniel Panario (Carleton), Mohammad Sadeghi (Amirkabir U. of Technology), Renate Scheidler (Calgary), Éric Schost (Western), Francesco Sica (Mount Allison), Edlyn Teske (Waterloo).

Dynamics of Large Groups and Semigroups
Propriétés dynamiques des groupes et des demi-groupes de dimension
Org: Stefano Ferri (Universidad de los Andes), Alica Miller (Louisville), Vladimir Pestov (Ottawa)

Christopher Atkin (Victoria U. of Wellington), Alexander Berenstein (Uniandes, Bogotá), Ilias Farah (York), Stefano Ferri (Uniandes, Bogotá), Matthew Foreman (California-Irvine), Jorge Galindo (Jaume I, Castelló), Wojciech Jaworski (Carleton), Claude Laflamme (Calgary), Gabor Lukacs (Manitoba), Jan Pachl, Vladimir Pestov (Ottawa), Norbert Sauer (Calgary), Lionel Nguyen Van Thé (Calgary).

Geometric Group Theory
Théorie géométrique des groupes
Org: Inna Bumagin (Carleton), Denis Serbin (McGill), Benjamin Steinberg (Carleton)

Peter Brinkmann (City College - CUNY), Montserrat Casals-Ruiz (McGill), Sean Cleary (City College - CUNY), Tullia Dymarz (Yale), Bob Gilman (Stevens Inst. of Technology), Susan Hermiller (U. Nebraska Lincoln), Ilya Kazachkov (McGill), Olga Kharlampovich (McGill), Eduardo Martinez-Pedroza (McMaster), John Meier (Lafayette College), Alexei Miasnikov (McGill), Andrei Nikolaev (McGill), Denis Osin (City College - CUNY), Alexandra Pettet (Stanford), Akbar Rhemtulla (Alberta), Mahmood Sohrabi (Carleton), Zoran Sunik (Texas A&M), Nickolas Touikan (McGill), Alexander Ushakov (Stevens Inst. of Technology).

History and Philosophy of Mathematics
Histoire et philosophie des mathématiques
Org: Tom Archibald (SFU), Alexander Jones (Toronto)

Infinite-Dimensional Lie Theory
Théorie infini-dimensionnelle de Lie
Org: Yuly Billig (Carleton), Alistair Savage (Ottawa)

Mathematical Aspects of Quantum Information
Aspects mathématiques de l'information quantique
Org: David Kribs (Guelph)

Mathematical Education
L'éducation mathématique
Org: Benoit Dionne (Ottawa), John Poland (Carleton)

Santo D'Agostino (Brooks), Bernard R. Hodgson (Laval), Leo Jonker (Queen's), Miroslav Lovric (McMaster), David Poole (Trent), Margaret Sinclair (York), Denis Tanguay (UQAM).

Mathematical Biology
Biologie mathématique
Org: Frithjof Lutscher, Robert Smith? (Ottawa)

Troy Day (Queen's), Gerda de Vries (Alberta), David Fisman (Hospital for Sick Kids), Jing Li (Western), Justine GunOg Seo (Ottawa), Robert Smith? (Ottawa), Rebecca Tyson (UBC Okanagan).

Mathematics and Classical Mechanics
Mathématique et mécanique classique
Org: Manuele Santoprete, Cristina Stoica (Wilfrid Laurier)

Stephen Anco (Brock), Larry Bates (Calgary), Leo Butler (Edinburgh), Monica Cojocaru (Guelph), Florin Diacu (Victoria), Antonio Hernandez-Garduno (Universidad Nacional Autónoma de México), Jacques Hurtubise (McGill), Jeroen Lamb (Imperial College), Bill Langford (Guelph), Ray Mcleneghan (Waterloo), Dan Offin (Queen's), George Patrick (Saskatchewan), Gareth Roberts (College of the Holy Cross), Roman Smirnov (Dalhousie).

Number Theory
Théorie des nombre
Org: Alina C. Cojocaru (Illinois-Chicago), Damien Roy (Ottawa)
Nils Bruin (SFU), Stephen Choi (SFU), Alina C. Cojocaru (Illinois at Chicago), Chantal David (Concordia), Stephen Kudla (Toronto), Ram Murty (Queen's), Michael Rubinstein (Waterloo), Kenneth Williams (Carleton).

Numerical Analysis and Computational Mathematics
Analyse numérique et mathématiques computationnelles
Org: A. Bass Bagayogo (Collège Universitaire de Saint-Boniface)

Julien Arino (Manitoba), Tony Drummond (Lawrence Berkeley Lab.), Jun Li (Montreal), Sherry Li (Lawrence Berkeley Lab.), Emmanuel Lorin (UOIT), Joel Malard (SIMUCAD), Christian Perret (ETH Zurich), Damian Rousson (Sandia National Lab.), Chris Rycroft (Berkeley).

Operator Algebras
Algèbres d'opérateurs
Org: Benoit Collins, Thierry Giordano (Ottawa)

Serban Belinschi (Saskatchewan), Berndt Brenken (Calgary), Richard Burstein (Ottawa), Man-Duen Choi (Toronto), Ken Davidson (Waterloo), George Elliott (Toronto), Heath W. Emerson (Victoria), Juliana Erlijman (Regina), Remus Floricel (Regina), David Kerr (Texas A&M), Masoud Khalkhali (Western), Claus Koestler (St Lawrence College), James Mingo (Queen's), Ping Wong Ng (Louisiana-Lafayette), Alexandru Nica (Waterloo), Jonathan Novak (Queen's), Emily Peters (UC Berkeley), John Phillips (Victoria), Volker Runde (Emonton).

Probability
Probabilité
Org: Antal Jarai, Yiqiang Zhao (Carleton)

Omer Angel (Toronto), Raluca Balan (Ottawa), David Brydges (UBC), Lung-Chi Chen (UBC), Miklos Csorgo (Carleton), Don Dawson (Carleton), Pierluigi Falco (UBC), Shui Feng (McMaster), Minyi Huang (Carleton), Gail Ivanoff (Ottawa), Xiaoyue Jiang (Louisiana State U.), Michael Kozdron (Regina), Rafal Kulik (Ottawa), Neal Madras (York), David Mcdonald (Ottawa), Mathieu Merle (UBC), Edwin Perkins (UBC), Lea Popovic (Concordia), Jeremy Quastel (Toronto), Wei Sun (Concordia), Barbara Szyszkowicz (Carleton), Adam Timar (UBC), Xiaowen Zhou (Concordia).

Representation Theory of Algebras
La théorie des représentations des algèbres
Org: Dlab Vlasta (Carleton), Ragnar-Olaf Buchweitz (Toronto)

Yu A. Bachturin (Memorial), Margaret Beattie (Mount Allison), Frauke M. Bleher (Iowa), Christopher Brav (Queen's), Ragnar-Olaf Buchweitz (Toronto), Vlastimil Dlab (Carleton), Francois Huard (Bishop's), Shiping Liu (Sherbrooke), Frank Marko (Pennsylvania State-Hazleton), Frank Okoh (Wayne State), Frank Zorzitto (Waterloo).

Technology Use in Post-Secondary Mathematics Instruction: Issues in Practice and Research
Utilisation de la technologie dans l'enseignement mathématique post-secondaire
Org: Chantal Buteau (Brock), Daniel Jarvis (Nipissing), Zsolt Lavicza (Cambridge, UK)

Peter Adamic (Laurentian), Jack Weiner & Jeremy Balka (Guelph), Robert Billinski (Collège Montmorency), Zsolt Lavicza (Cambridge, UK), Panel Discussion, France Caron & Kathleen Pineau (Montréal & École de technologie supérieure), Margarita Kondratieva & Oana Radu (Memorial), Yvan Saint-Aubin (Montréal), Philippe Etchecopar & Jean-Philippe Villeneuve (Cégep de Rimouski).
Panel Discussion: France Caron (Montreal), Zsolt Lavicza (Cambridge, UK), Yvan Saint-Aubin, (Montreal), Keith Taylor (Dalhousie)

Theory and Applications of Functional Differential Equations
Théorie et applications des équations différentielles fonctionnelles
Org: Pietro-Luciano Buono (OIT), Victor LeBlanc (Ottawa)

Jacques Belair (Montréal), Elena Braverman (Calgary), Sue Ann Campbell (Waterloo), Yuming Chen (Wilfrid Laurier), Teresa Faria (Universidade de Lisboa, Portugal), Qingwen Hu (York), Tony Humphries (McGill), Jeroen Lamb (Imperial College London. UK).

Contributed Papers
Communications libres
Org: TBC

Réunion d'hiver de la SMC 2008
Hôtel Marriott
Ottawa (Ontario)
6-8 décembre
www.smc.math.ca
Hôte : Université Carleton

Directeurs de la réunion : Matthias Neufang et Benjamin Steinberg (Carleton)

Au nom de l'Université Carleton (www.carleton.ca), l'école de mathématiques et de statistique invite la communauté mathématique à la Réunion d'hiver 2008 de la Société mathématique du Canada (SMC). Au programme : onze conférences (plénières, publique et de lauréats) ainsi qu'une grande diversité de sessions, y compris une session de communications libres.

Toutes les activités scientifiques et sociales se dérouleront à **l'hôtel Marriott, situé au 100, rue Kent, à Ottawa.**

Le Comité des femmes en mathématiques de la SMC organise le 4e atelier du groupe **Connecting Women in Mathematics Across Canada** (CWiMAC 2008). Les ateliers du groupe CWiMAC ont pour objectif de soutenir le perfectionnement professionnel des jeunes professeures d'université au sein de la communauté mathématique canadienne. L'édition 2008 se déroulera à l'Université d'Ottawa, les 4 et 5 décembre 2008.

Prix
Prix Coxeter-James : Ravi Vakil (Stanford)
Prix de doctorat : Matthew Greenberg (Calgary)
Prix Adrien-Pouliot : Harley Weston (Regina)
Prix G. de B. Robinson : à venir
Prix David-Borwein de mathématicien émérite pour l'ensemble d'une carrière : Hermann Brunner (Memorial, ETH Zurich)

Conférenciers pléniers
David Acheson (Oxford)
Fan Chung (UC San Diego)
Gilles Godefroy (Paris)
Sorin Popa (UCLA)
Laurent Saloff-Coste (Cornell)
Mark Sapir (Vanderbilt)
Keith Taylor (Dalhousie)

Conférence publique
Patrick Hayden (McGill)

Séances de travail
Réunion du Comité exécutif : le jeudi 4 décembre; Marriott, salle Sussex
Lunch du Groupe de développement : le vendredi 5 décembre; Marriott, salle Laurier
Réunion du Conseil d'administration : le vendredi 5 décembre; Marriott, salle Cartier III

Activités sociales
Réception d'accueil : le vendredi 5 décembre, Marriott
Banquet : A venir, Marriott, salle de bal
Du café et des jus seront servis durant les pauses prévues à l'horaire.

Inscription
Vous pouvez vous procurer le formulaire d'inscription au www.smc.math.ca/Events/f
Les tarifs sont indiqués en dollars canadiens dans le tableau. Nous acceptons les paiements par chèque (dollars CAN ou US), VISA ou MasterCard. Le paiement doit nous parvenir au plus tard le 30 septembre pour que vous ayez droit aux tarifs réduits, et au plus tard le 25 novembre pour que nous ayons le temps de traiter votre paiement avant le congrès. Les reçus seront remis sur place.

	EN LIGNE		SUR PLACE
	Inscr. hâtives jusqu'au 30 sep	Tarif normal 1 oct – 25 nov	
Conférencier primé (2 billets pour le banquet)	0 $	0 $	0 $
Conférencier (plénière ou publique) (1 billet pour le banquet)	0 $	0 $	0 $
Étudiants	95 $	125 $	150 $
Étudiants postdoctoraux, retraités, enseignants (mat., prim., sec.), sans emploi	150 $	175 $	200 $
Membres, organisateurs et conférenciers de la SMC	295 $	345 $	395 $
Non-membres	445 $	495 $	545 $
Tarif quotidien (sur place seulement)	-	-	175 $
Billet pour le banquet	60 $	60 $	60 $

Avantages de la préinscription :
- Tarifs réduits pour les personnes qui s'inscrivent au plus tard le 30 septembre
- Votre nom figurera dans la liste des participants sur le site du congrès
- Votre trousse d'inscription sera déjà prête à votre arrivée le vendredi soir
- Vous n'aurez pas besoin de faire la file pour vous inscrire à la première heure samedi matin!
- Les billets pour le banquet sont en vente maintenant, mais il pourrait ne plus en rester sur place

Politique de remboursement
Les participants qui désirent annuler leur inscription doivent en aviser le bureau administratif de la SMC (reunion@smc.math.ca) par écrit au plus tard le 25 novembre pour se voir rembourser leurs frais d'inscription (moins 40 $). Les participants dont les communications libres n'auront pas été acceptées seront remboursés intégralement sur demande.

Envoi de résumés
Pour pouvoir publier votre résumé en ligne et dans le programme de la Réunion, nous devons le recevoir au plus tard le 15 octobre 2008. Veuillez utiliser le formulaire électronique au smc.math.ca/forms/abs-w08. Les organisateurs remercient les conférenciers de bien vouloir respecter cette importante échéance.

Hébergement
L'hôtel ci-dessous offre des chambres à un tarif de groupe préférentiel pour la durée du congrès ainsi que pour les trois jours qui précèdent et qui suivent l'événement. Pour y avoir droit, vous devez réserver avant les dates limites indiquées en mentionnant le code de groupe. Les réservations faites après la date limite ne seront acceptées que s'il reste des chambres, et il se pourrait que le tarif préférentiel ne soit plus en vigueur. Les tarifs sont par nuit, par chambre, et sont indiqués en

devises canadiennes. Toute réservation doit être garantie par le paiement d'une nuit ou par une carte de crédit reconnue. Nous vous recommandons de vérifier les modalités de paiement et d'annulation au moment de faire votre réservation, car celles-ci varient d'un établissement à l'autre.

Hôtel Marriott Ottawa (www.ottawamarriott.com)
100, rue Kent, Ottawa (Ontario), K1P 5R7
Téléphone : 613-238-1122 ou 1-800- 853 8463, Fax : 613-783-4229

Les participants qui réserveront leur chambre au Marriott au plus tard le 31 octobre seront inscrits au tirage des prix suivants :
- Un brunch du dimanche pour deux au Merlot Rooftop Grill
- Un souper pour deux au restaurant Toulouse
- Une nuitée de fin de semaine à l'hôtel Marriott

Date limite : 4 novembre 2008
Code de groupe : CMSCMSA

Tarifs

Accès internet haute vitesse et appels locaux gratuits.
Chambre standard (deux lits doubles ou un très grand lit) – 139 $
Tarif pour une ou deux personnes; 3 ou 4 personnes : 10 $ par personne supplémentaire.
Taxes : 5 % de TPS (remboursement accordé aux visiteurs de l'étranger), 6 % de taxe de vente provinciale, droits de marketing de destination : 3 %.

Aucun animal n'est permis dans les chambres
Hôtel entièrement non fumeur
Gratuit pour les enfants de moins de 18 ans qui occupent la même chambre que leurs parents. Le personnel de la réception pourra vous aider à trouver un gardien ou une gardienne.
Stationnement : libre-service : 20 $ par jour; 6 $ l'heure; service voiturier : 25 $ par jour
Arrivée : 15 h
Départ : 13 h

Pour les résidences étudiantes, contacter la Coordonnatrice de la Réunion (reunions@smc.math.ca).

Déplacements

Le trajet en taxi de l'aéroport au centre-ville coûte autour de 25 $.
Le trajet en navette coûte 8 $ aller simple et 16 $ aller-retour. Comme il s'agit d'un tarif spécial de groupe, veuillez préciser que vous êtes inscrit à la Réunion au moment d'acheter votre billet. Le tarif habituel est de 14 $ pour un aller simple et de 24 $ pour un aller-retour. Pour consulter l'horaire, passez au www.yowshuttle.com.

Vous trouverez des renseignements détaillés concernant l'Université Carleton, la ville d'Ottawa et la province de l'Ontario (renseignements touristiques, température et climat locaux, cartes de la ville et des attractions touristiques, circuits touristiques piétonniers, etc.) sur les sites web suivants :
- Université Carleton (www.carleton.ca)
- Tourisme Ottawa (www.ottawatourism.ca/index.php?lang=fr)
- Ontario Travel (www.ontariotravel.net)
- Service météorologique du Canada (www.meteo.gc.ca)

Déplacements pour étudiants diplômés

Les étudiants diplômés du Canada ou de l'étranger ont accès à un fonds limité pour financer une partie de leurs frais de déplacement et de séjour. La préférence est toutefois accordée aux étudiants canadiens. Toute demande de financement doit être accompagnée d'une lettre du superviseur de l'étudiant ou de la personne responsable des études supérieures de son département, dans laquelle il ou elle indiquera le nom de l'étudiant, son domaine et son niveau d'études, en quoi la Réunion sera profitable à l'étudiant, si l'étudiant présentera une communication et si l'étudiant a accès à d'autres sources de financement.
La lettre doit parvenir à la SMC avant le 15 octobre 2008 (gradtravel-w08@smc.math.ca). Les décisions seront annoncées à la fin d'octobre.
Si une subvention est accordée à l'étudiant, ce dernier se verra rembourser ses dépenses après la Réunion sur présentation du formulaire de remboursement approprié accompagné des reçus originaux.
Pour de plus amples renseignements, veuillez communiquer avec la responsable des Réunions (gradtravel-w08@cms.math.ca).
Pour les résidences étudiantes, contacter la Coordonnatrice de la Réunion (reunions@smc.math.ca).

Salon des exposants

Le salon des exposants sera ouvert de 9 h 30 à 16 h le samedi et le dimanche dans la salle Victoria South.
Exposition conjointe : On y présentera des produits de maisons d'édition et d'autres entreprises et organismes non représentés à la Réunion. On trouvera des bons de commande sur place, qui seront transmis aux entreprises concernées après la Réunion. Les livres et autres produits qui seront présentés à cette occasion seront offerts à l'université hôte.

Nous vous invitons à visiter le comptoir d'adhésion et l'exposition de livres de la SMC dans l'aire d'inscription. Un représentant sera sur place de 9 h 30 à 16 h pour fournir des renseignements sur l'adhésion, les publications et les autres activités de la Société.

Commanditaires

Nous remercions les organismes ci-dessous de leur soutien financier. Nous publierons de plus amples renseignements sur le financement du congrès dès qu'ils nous parviendront.

Centre de recherches mathématiques
Institut Fields
MITACS
Institut du Pacifique pour les sciences mathématiques
Université Carleton
Le doyen de la Faculté des sciences
La vice-rectrice à la recherche
Le vice-recteur aux études

La SMC tient à remercier les directeurs de la Réunion et les organisateurs de sessions.

The Fields Institute is very pleased to announce that Professor Ed Bierstone of the Department of Mathematics at the University of Toronto has been appointed Director of the Fields Institute, and will begin his term on July 1, 2009.

Fields Ontario Postdoctoral Fellowships Thanks to significantly increased funding from the Province of Ontario, Fields will be offering four new fellowships per year, two in connection with each thematic program. These will be 2-3 year positions combining residency at Fields with a research-teaching position at an Ontario University. The application process is detailed on the Fields web pages.

The 2008 Fall thematic program at the Institute is Arithmetic Geometry, Hyperbolic Geometry and Related Topics, organized by John Bland (Toronto), Caterina Consani (Johns Hopkins), Stephen Kudla (Toronto), Min Ru (Houston), Paul Vojta (Berkeley) and Pit-Mann Wong (Notre Dame). The Clay Mathematics Institute Senior Scholar in the program is Henri Gillet (University of Illinois at Chicago), and Yum-Tong Siu (Harvard) is the University of Toronto Dean's Distinguished Visiting Professor. Siu will deliver the Distinguished Lectures Series during the week of November 10th, as well as a graduate course on a topic related to the program. The Coxeter Lecture Series will be given by Shou-Wu Zhang, Columbia University, during the week of September 29.

Four workshops are planned:

October 20-24, 2008
Arithmetic Geometry: Diophantine approximation and Arakelov theory
Organizing Committee: Caterina Consani (Johns Hopkins), Henri Gillet (Co-Chair), UIC), Yuri Manin (Northwestern), Paul Vojta (Co-Chair, Berkeley), Umberto Zannier (SNS Pisa)

October 27-28, 2008
p-adic Dynamics
Organizer: Joseph Silverman (Brown)

November 10-15, 2008
Complex Dynamics
Organizers: Jeff Diller (Notre Dame), Eric Bedford (Indiana)

November 17-21, 2008
Complex Hyperbolic Geometry and Related Topics
Organizers: Jean-Pierre Demailly (Grenoble I), Junjiro Noguchi (Tokyo), Min Ru (Houston)
There will also be three graduate courses:
Arakelov Geometry
Nevanlinna Theory and Diophantine Approximation
Jet Spaces and Motivic Integration.

Weekly seminars are planned and will involve survey and expository talks by experts.
For more information: thematic@fields.utoronto.ca
www.fields.utoronto.ca/programs/scientific/08-09/arith_hypergeo

Future Thematic Programs:

Winter/Spring 2009
o-Minimal Structures and Real Analytic Geometry
Organizers: David Marker (UIChicago), Chris Miller (Ohio State), Jean-Philippe Rolin (Bourgogne), Patrick Speissegger (McMaster), Carol Wood (Wesleyan)

Fall 2009
Foundations of Computational Mathematics
Organizers: Peter Borwein (Simon Fraser), Stephen A. Cook (Toronto), Teresa Krick (Buenos Aires), Adrian Lewis (Cornell), Michael Shub (Toronto), Richard Schwartz (Brown)

Winter/Spring 2010
Quantitative Finance: Foundations and Applications
Organizers: Y. Ait-Sahalia (Princeton), M. Grasselli (McMaster), V. Henderson (Warwick), T, Hurd (McMaster), M.Rindisbacher (Toronto), Dan Rosen (R2 Financial Technologies)

Fall 2010
Asymptotic Geometric Analysis
Organizers: V. Milman (Tel-Aviv), V. Pestov (Ottawa), N. Tomczak-Jaegermann (Alberta)

Winter/Spring 2011
Dynamics and Transport in Disordered Systems
Organizers: D. Dolgopyat, K. Khanin, R. de la Llave, A. Neishtadt, J. Quastel, B. Toth

Fall 2011
Discrete Geometry and Applications
Organizers: K. Bezdek, R. Connelly, A. Deza, H. Edelsbrunner, A. I. Weiss, Yinyu Yi

Winter/Spring 2012
Galois Representations
Organizers: F. Calegari, M. Emerton, M. Kisin, S. Kudla

Some other events at the Institute this fall:

Sep 18–20
Conference on Non-linear Phenomena in Mathematical Physics:
Dedicated to Cathleen Synge Morawetz on her 85th birthday
www.fields.utoronto.ca/programs/scientific/08-09/math-physics/

Nov 1–2
Workshop on Algebraic Varieties
www.fields.utoronto.ca/programs/scientific/08-09/algebraic_varieties/

Nov 9–10
IFID/MITACS Conference on Financial Engineering for Actuarial Mathematics.
www.fields.utoronto.ca/programs/cim/08-09/financialeng

For more information on thematic programs, contact us at thematic@fields.utoronto.ca
or consult
www.fields.utoronto.ca/programs/scientific.

Complete and up-to-date information on all Fields Institute activities can be found at thematic@fields.utoronto.ca.

You can subscribe to our mailing list of Fields Institute activities at
www.fields.utoronto.ca/maillist.

NOUVEAU LIVRE ATOM!

Aime-T-On les Mathématiques (ATOM) Tome 8 – Problems of Mathematical Leagues III est maintenant disponible. Acheter votre copie aujourd'hui!

Auteurs: Peter I. Booth
John Grant McLaughlin
Bruce L.R. Shawyer

Vous pouvez également placer votre ordre au site Web www.smc.math.ca

PRODUIT REPRÉSENTÉ: NOUVEAU LIVRE ATOM			PRIX RÉGULIER	PRIX MEMBRE	QUANTITÉ	SOUS-TOTAL
NOUVEAU! ATOM Tome 8 – Problems for Mathematics Leagues III			12,00 $	9,00 $		
Les livres d'ATOM suivants sont disponible pour achat:						
Tome	**Titre**	**Auteur**	**PRIX RÉGULIER**	**PRIX MEMBRE**	**QUANTITÉ**	**SOUS-TOTAL**
1	Mathematical Olympiads' Correspondence Program	Edward J. Barbeau	12,00 $	9,00 $		
2	Algebra – Intermediate Methods	Bruce Shawyer	12,00 $	9,00 $		
3	Problems for Mathematics Leagues	Peter I. Booth John Grant McLoughlin Bruce L.R. Shawyer	12,00 $	9,00 $		
4	Inequalities	Edward J. Barbeau Bruce L.R. Shawyer	12,00 $	9,00 $		
5	Combinatorial Explorations	Richard Hoshino John Grant McLoughlin	12,00 $	9,00 $		
6	Problems for Mathematics Leagues II	Peter I. Booth John Grant McLoughlin Bruce L.R. Shawyer	12,00 $	9,00 $		
7	Problems of the week	Jim Totten	12,00 $	9,00 $		
LIVRAISON ET TAXES (TPS/TVH: 11883 3979 RT)						
Columbie-Britannique, Alberta, Yukon, T.N.-O., Nunavut, Saskatchewan, Manitoba, Ontario, Québec, Î-P-É **(TPS 5%)**						
Nouveau-Brunswick, Labrador et Terre-Neuve, Nouvelle-Écosse **(TVH 13%)**						
Livraison:					+	**Inclus**
Grand Total					=	

RENSEIGNEMENT SUR LE MEMBRE

Nom: _____

No. de SMC: _____

Adresse: _____

Ville/Prov./ Code Postal: _____

Pays: _____

Téléphone: _____

Courriel: _____

METHODE DE PAIEMENT

☐ **Chèque (payable à la Société mathématique du Canada)** Pour adresse à l'étranger, paiement requis en devises américains et inclure la banque émettrice.

Carte de crédit: ☐ **Visa** ☐ **MasterCard**

No. de carte: _____

Date d'expiration: _____ **(MM/YY)**

Signature: _____

Nom figurant sur la carte: _____

SVP envoyer par télécopie au 1-613-565-1539 ou par la poste à SMC, 577 avenue King Edward, Bureau 109, Ottawa, ON K1N 6N5 Canada

À VENIR!

Vous trouverez bientôt des nouveaux produits promotionels de la SMC dans une des prochaines NOTES.

NEW ATOM RELEASE!

A Taste Of Mathematics (ATOM) Volume 8 – Problems of Mathematical Leagues III is now available. Get your copy today!

Authors: Peter I. Booth
John Grant McLaughlin
Bruce L.R. Shawyer

You can also order via our website at www.cms.math.ca

FEATURED ITEM: NEW ATOM RELEASE	REGULAR PRICE	MEMBER PRICE	QUANTITY	SUB-TOTAL
NEW! ATOM Volume 8 – Problems for Mathematical Leagues III	$ 12.00	$ 9.00		

The following ATOM Books are also available for purchase:

Volume	Title	Author	REGULAR PRICE	MEMBER PRICE	QUANTITY	SUB-TOTAL
1	Mathematical Olympiads' Correspondence Program	Edward J. Barbeau	$ 12.00	$ 9.00		
2	Algebra – Intermediate Methods	Bruce Shawyer	$ 12.00	$ 9.00		
3	Problems for Mathematics Leagues	Peter I. Booth John Grant McLoughlin Bruce L.R. Shawyer	$ 12.00	$ 9.00		
4	Inequalities	Edward J. Barbeau Bruce L.R. Shawyer	$ 12.00	$ 9.00		
5	Combinatorial Explorations	Richard Hoshino John Grant McLoughlin	$ 12.00	$ 9.00		
6	Problems for Mathematics Leagues II	Peter I. Booth John Grant McLoughlin Bruce L.R. Shawyer	$ 12.00	$ 9.00		
7	Problems of the week	Jim Totten	$ 12.00	$ 9.00		

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New Brunswick, Newfoundland and Labrador, Nova Scotia (**HST 13%**)	
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Grand Total	= $

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Non-Canadian addresses pay in US funds. Cheques drawn on Canadian or US Bank.

Credit Card: ☐ **Visa** ☐ **MasterCard**

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Signature: _____

Name as Printed on Card: _____

Please fax this form to 1-613-565-1539 or mail to CMS, 577 King Edward Ave., Suite 109, Ottawa, ON K1N 6N5 Canada

COMING SOON!

Look for our new and exciting CMS Promotional Items in an upcoming issue of NOTES.

I would also like to thank the Congress Scientific Directors: Octave Cornea (Montreal), Nassif Ghoussoub (UBC) and Francois Loeser (Ecole normale superieure) as well as the local organizers: Christiane Rousseau (Montreal), Alexandra Haedrich (UQAM) and Gertrud Jeewanjee (CMS Office), for the tremendous job they did for the largest mathematics congress we have had since the 1974 ICM in Vancouver.

All 18 invited lectures in the Congress were of extremely high quality. The public lecture was given by Yvan Saint-Aubin (Montréal) and the Plenary lectures were given by Yves André (CNRS-ENS, Paris), Olivier Biquard (Strasbourg), Luc Devroye (McGill), Andrew Granville (Montréal), Alice Guionnet (CNRS-ENS, Lyon), Rick Kenyon (Brown), Gérard Laumon (CNRS-Orsay), Eric Sere (Paris-Dauphine), Jean-Pierre Serre (Collège de France), Nicole Tomczak-Jaegermann (Alberta), Nizar Touzi (CREST-Paris) and Jianhong Wu (York).

The CMS Excellence in Teaching Award lecture was given by Edward Bierstone (Toronto), the CMS Krieger-Nelson Prize lecture by Izabella Laba (UBC) and the CMS Jeffery-Williams Prize lecture was by Martin Barlow (UBC). The CAIMS Cecil Graham Doctoral Dissertation Award lecture was given by Alysson M. Costa (Universidade de Sao Paulo, Brazil) and the CAIMS Research Prize was given by Alan George (Waterloo). Congratulations to all the prize winners.

Graduate students are important for the future of mathematics. I am very encouraged to see that the participation of graduate students at the Congress was exceptionally strong. There were 10 winners of the Graduate Student Poster Competition, during the Awards Reception: First Place: Bruno L'Esperance (British Columbia), Mirjana Maras (Simon Fraser), and Oleksandr Romanko (McMaster); Second Place: Claudia Calin (Alberta), Natasha Kirby (Western), and Olesya Peshko (McMaster); Third Place: Amir Kermany (Concordia), Hugo Larochelle (Montreal), Maryam Namazi (Victoria), and Daniel Roche (Waterloo).

Awards were also given to: Best Student Paper for MITACS Related Research: Mirela Andronescu (British Columbia); Best Novel Use of Mathematics in Technology Transfer: Ismael El-Samahy (Waterloo), Ryan Schmidt (Toronto), and Yuriy Zinchenko(McMaster); and Outstanding Service to the Student Network,: Ben Willson (Alberta).

The recipients of the MITACS 2007-2008 Mentorship Award of Excellence were Dr. Tams Terlaky (McMaster) and Dr. Kim McAuley (Queen's).

Congratulations to all of you and keep up the good work!!!

I would like to thank representatives of NSERC, Serge Villemure, Catherine Podeszfinskie and Jennifer Bean, for running a workshop on NSERC applications, for their presentations to the Board of Directors meeting, and for a general session for participants on the International Review of the Discovery Grants program and the GSC Structure Review Advisory. The reports have been posted on NSERC web site:

http://www.nserc.gc.ca/about/consultations_e.asp.

Common elements in both reports are the recommendations that NSERC reduce the number of the grant selection committees (GSCs) and adoption of a conference model approach for organizing the evaluations of applications.

The next CMS winter meeting will be in Ottawa, from December 6 to 8, 2008, to be hosted by Carleton University, and the next Canadian Math Education Forum will be held from April 30 to May 3, 2009 in Vancouver, to be hosted by PIMS. I look forward to see many of you there.

In August 2007, I met Dr. Dohan Kim, President of the Korean Mathematical Society, in Korea. He expressed a very keen interest in having joint meetings with the CMS. The first of such meeting will be a KMS/CMS session as part of the Korean Mathematical Society Meeting (October 23 – 25, 2008) in Jeju, Korea. A team of 5 delegates: Alejandro Adem (UBC), Bruce Read (McGill), Nicole Tomczak-Jaegermann (Alberta), Roland Speicher and I will be there to represent the CMS. A CMS/KMS session in Algebraic Geometry organized by Alejandro Adem (UBC) and Jong Hae Keun (Korean Institute of Advanced Studies) is now planned for the 2009 Summer Meeting in Newfoundland.

The second joint meeting of CMS with Sociedad Matematica Mexicana (SMM) will be held in Vancouver during August, 2009.

Our mathematical community did not succeed in winning the 2010 International Congress of Mathemaicians. However preparation is being made, under the leadership of Christiane Rousseau, Chair of our International Affairs Committee, to support an application of ICM 2014 through NRC.

We are in great need of young faculty to become members of the Society. I would like to urge all of you who are not yet members to join the CMS, and all those who are already members I hope you will encourage your colleagues, particularly younger ones, to join. Take advantage of our two for one offer to join the Society and the reduced AMS membership rate when you become a member of CMS.

Finally I would like offer my heartiest congratulations to Malgorzata Dubiel of Simon Fraser University who is one of the winners of the 3M Teaching Award this year.

I look forward to see many of you at the 2008 Winter Meeting in Ottawa.

DU BUREAU DU PRÉSIDENT

par Anthony To-Ming Lau
University d'Alberta, Edmonton

Message de la SMC 2008

C'est la première fois que je m'exprime à titre de président de la Société mathématique du Canada. Grande organisation vouée à la promotion des mathématiques dans les domaines de la recherche, de l'éducation et des applications des mathématiques, la Société entre à présent dans sa 63e année d'existence.

Je commencerai par remercier Tom Salisbury pour son dévouement et son apport inestimables à la SMC, dont il a assuré la présidence au cours des deux dernières années. Il m'a été fort agréable de travailler avec lui durant la dernière année en tant que président élu. Il m'a aidé à comprendre la complexité de l'organisation, moi qui avais peu d'expérience avec les « réunions de conseil » et les « campagnes de financement ». Débordant de dynamisme, d'enthousiasme, de patience et d'idées, il est pour moi un véritable modèle. Merci, Tom, pour tout ce que tu as fait et pour avoir repoussé ta sabbatique de six mois afin de faciliter la transition.

Je ne saurais trop dire à quel point la Société est bien servie par l'apport d'un si grand nombre de bénévoles. Je remercie au passage les membres du Conseil d'administration ainsi que les membres et présidents de nos nombreux comités pour leur contribution à la Société. En particulier, je tiens à remercier tous nos présidents sortants pour leurs nombreuses années de précieuses contributions à la Société; merci à Bill Sands de l'Université de Calgary (Comité de l'Olympiade internationale de mathématiques), à Ed Barbeau de l'Université de Toronto (Comité des concours mathématiques), à Edgar Goodaire de l'Université Memorial de Terre-Neuve (Comité des mises en candidature) et à Joy Abramson de l'Université de Toronto (Comité des étudiants).

La Société dans son ensemble est très chanceuse de bénéficier du concours de son personnel administratif à Ottawa. Merci à vous tous! Graham Wright, notre directeur général depuis 1979, prendra bientôt sa retraite, le 31 décembre 2008. Au nom de la Société mathématique du Canada, je tiens à remercier Graham pour ses 30 années de dévouement et de leadership. On ne soulignera jamais assez ses longs et brillants états de service. Je tiens également à souhaiter la bienvenue à Joseph Khoury (Université d'Ottawa) qui lui succédera à compter du 1er janvier 2009. Joseph travaille avec Graham comme directeur général adjoint depuis le 1er juillet 2008. Graham demeurera parmi nous jusqu'à fin juin pour faciliter la transition. Joseph travaillera à temps partiel pour la SMC jusqu'à la fin de la présente année et prendra ensuite un congé de six mois de l'Université d'Ottawa à compter de janvier 2009.

Le grand événement de l'année aura été le Deuxième Congrès Canada-France, tenu à Montréal du 1er au 6 juin 2008. Ce congrès très réussi accueillit près de 800 délégués; on y présenta 28 sessions, sept minisymposia et trois ateliers. Les partenaires furent la Société mathématique du Canada, la Société canadienne de mathématiques appliquées et industrielles (SCMAI), le Centre de recherches mathématiques (CRM), l'Institut Fields, l'Institut des sciences mathématiques (ISM), le Réseau MITACS (Mathematics of Information Technology and Complex Systems, l'Institut du Pacifique pour les sciences mathématiques (PIMS), la Société de Mathématiques Appliquées & Industrielles (SMAI), la Société Mathématique de France (SMF) et l'Université du Québec à Montréal (UQÀM).

Je tiens également à remercier les directeurs scientifiques du congrès, soit Octave Cornea (Montréal), Nassif Ghoussoub (UBC) et François Loeser (École normale supérieure), ainsi que les responsables de la logistique locale, soit Christiane Rousseau (Montréal), Alexandra Haedrich (UQÀM) et Gertrud Jeewanjee (Bureau de la SMC), pour leur remarquable travail dans l'organisation du plus grand congrès de mathématiques que nous avons eu depuis le CIM de 1974 à Vancouver.

Les 18 conférences au programme furent toutes de très haute qualité. La conférence populaire fut donnée par Yvan Saint-Aubin (Montréal), et les conférenciers pléniers furent Yves André (CNRS-ENS, Paris), Olivier Biquard (Strasbourg), Luc Devroye (McGill), Andrew Granville (Montréal), Alice Guionnet (CNRS-ENS, Lyon), Rick Kenyon (Brown), Gérard Laumon (CNRS-Orsay), Eric Sere (Paris-Dauphine), Jean-Pierre Serre (Collège de France), Nicole Tomczak-Jaegermann (Alberta), Nizar Touzi (CREST-Paris) et Jianhong Wu (York).

La conférence du Prix d'excellence en enseignement de la SMC fut donnée par Edward Bierstone (Toronto), la conférence du prix Krieger-Nelson de la SMC, par Izabella Laba (UBC), et la conférence du Prix Jeffery-Williams de la SMC, par Martin Barlow (UBC). La conférence du Prix Cecil-Graham pour thèse de doctorat de la SCMAI fut prononcée par Alysson M. Costa (Universidade de São Paulo, Brésil), et la conférence du Prix de recherche de la SCMAI, par Alan George (Waterloo). Félicitations à tous les récipiendaires!

Les étudiants diplômés comptent beaucoup pour l'avenir des mathématiques. Je suis particulièrement ravi de constater qu'ils ont participé en très grand nombre au congrès. Les dix gagnants de la présentation par affiches sont, en première place, Bruno L'Espérance (Colombie-Britannique), Mirjana Maras (Simon Fraser) et Oleksandr Romanko (McMaster); en deuxième place, Claudia Calin (Alberta), Natasha Kirby (Western) et Olesya Peshko (McMaster); et en troisième place, Amir Kermany (Concordia), Hugo Larochelle (Montréal), Maryam Namazi (Victoria) et Daniel Roche (Waterloo).

D'autres prix ont été décernés. Meilleure publication étudiante dans un domaine de recherche relié à MITACS : Mirela Andronescu (Colombie-Britannique). Meilleur emploi innovateur des mathématiques dans le transfert technologique : Ismael El-Samahy (Waterloo), Ryan Schmidt (Toronto) et Yuriy Zinchenko (McMaster). Service exceptionnel au réseau étudiant : Ben Willson (Alberta).

Les récipiendaires du prix d'excellence en mentorat MITACS 2007-2008 sont Tams Terlaky (McMaster) et Kim McAuley (Queen's).

Félicitation à vous tous et continuez votre beau travail!!!

J'aimerais remercier les représentants du CRSNG, Serge Villemure, Catherine Podeszfinskie et Jennifer Bean, pour leur atelier sur les demandes de subventions au CRSNG, pour leurs présentations au conseil d'administration et pour leur session générale sur l'examen international du Programme de subventions à la découverte et l'examen de la structure des comités de sélection des subventions (CSS). Les rapports sont publiés sur le site internet du CRSNG : http://www.crsng.gc.ca/about/consultations_f.asp.

Les recommandations communes aux deux rapports sont que le CRSNG réduise le nombre de CSS et adopte un modèle de conférence pour organiser l'évaluation des demandes.

La prochaine Réunion d'hiver de la SMC aura lieu à Ottawa, du 6 au 8 décembre 2008, à l'Université Carleton. Le prochain Forum sur l'enseignement des mathématiques se tiendra du 30 avril au 3 mai 2009 à Vancouver, au PIMS. J'espère rencontrer beaucoup d'entre vous à ces occasions.

En août 2007, j'ai rencontré le professeur Dohan Kim, président de la Société mathématique de Corée, en Corée. Il se montre très enthousiaste à l'idée de tenir des congrès conjoints avec la SMC. La première de ces rencontres prendra la forme d'une séance conjointe à l'occasion de la Réunion de la Société mathématique de Corée (23-25 octobre 2008) à Jeju, en Corée. La SMC sera représentée par une équipe de cinq délégués, à savoir Alejandro Adem (UBC), Bruce Read (McGill), Nicole Tomczak-Jaegermann (Alberta), Roland Speicher et moi-même. Alejandro Adem (UBC) et Jong Hae Keun (Institut coréen d'études avancées) préparent une session conjointe en géométrie algébrique en vue de la Réunion d'été 2009 à Terre-Neuve.

Le deuxième congrès conjoint de la SMC et de la Sociedad Matemática Mexicana (SMM) se tiendra à Vancouver en août 2009.

Notre communauté mathématique n'a pas réussi à obtenir le Congrès international des mathématiciens (CIM) de 2010. En revanche, des démarches sont en cours sous la direction de Christiane Rousseau, présidente de notre Comité des affaires internationales, en vue d'accueillir le CIM de 2014 avec le concours du CNRC.

Nous avons grand besoin de recruter de nouveaux membres parmi les jeunes professeurs. J'encourage tous ceux d'entre vous qui ne sont pas encore membres de la SMC à le devenir, et je demande à tous nos membres actuels d'inciter vos collègues, en particulier les plus jeunes, à se joindre à nous. Profitez de notre offre d'adhésion deux pour un et des droits d'adhésion réduits de l'American Mathematical Society pour les membres de la SMC.

En terminant, j'aimerais offrir mes plus sincères félicitations à Malgorzata Dubiel (Université Simon Fraser) qui a remporté l'une des Bourses d'enseignement de 3M cette année.

J'espère rencontrer beaucoup d'entre vous à Réunion d'hiver 2008 à Ottawa.

EMPLOYMENT OPPORTUNITY

UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA

www.careers.ualberta.ca

Assistant Professor, Mathematical Biology

The Department of Mathematical and Statistical Sciences at the University of Alberta invites applications for a tenure-track position in the area of Mathematical Biology. This position is at the Assistant Professor level, but an appointment at a higher level may be possible under exceptional circumstances.

We seek an individual who will fit into our applied mathematics program (dynamical systems, differential equations, numerical methods, fluid dynamics, and probability), and who complements the Department's existing expertise in the mathematical modeling of cell biology, ecology, epidemiology, and physiology. Candidates must have a Ph.D. degree in Mathematics or cognate discipline, an excellent research record in Mathematical Biology, strong communication and teaching skills, and leadership potential. Postdoctoral experience is normally expected.

The successful candidate will develop an independent research program, supervise graduate students, and teach at both the graduate and undergraduate levels. We offer an excellent research environment with a normal teaching load of three courses per year. For more information about the Department, please visit our website at www.math.ualberta.ca.

Candidates have the opportunity to join the Centre for Mathematical Biology and participate in its activities. For more information about the Centre for Mathematical Biology, see www.math.ualberta.ca/~mathbio.

Applicants should submit their curriculum vitae, a research statement, a teaching profile outlining experience and/or interests, and at least three confidential letters of reference to:

Arturo Pianzola, Chair
Department of Mathematical and Statistical Sciences
University of Alberta
Edmonton, Alberta, Canada T6G 2G1

Electronic submissions should be directed to chairsec@math.ualberta.ca. The closing date for applications is November 7, 2008, or until a suitable candidate is found. Early applications are encouraged.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. If suitable Canadian citizens and permanent residents cannot be found, other individuals will be considered. The University of Alberta hires on the basis of merit. We are committed to the principle of equity in employment. We welcome diversity and encourage applications from all qualified women and men, including persons with disabilities, members of visible minorities, and Aboriginal persons.

CALL FOR NOMINATIONS
CJM/CMB - Associate Editors

The Publications Committee of the CMS solicits nominations for Associate Editors for the Canadian Journal of Mathematics (CJM) and the Canadian Mathematical Bulletin (CMB). The appointment will be for five years beginning January 1, 2009. The continuing members (with their end of term) are below.

The deadline for the submission of nominations is October 31, 2008.

Nominations, containing a curriculum vitae and the candidate's agreement to serve, should be sent to the address below.

APPEL DE MISES EN CANDIDATURE
JCM/BCM - Rédacteurs associés

Le comité des publications de la SMC sollicite des mises en candidatures pour des rédacteurs associés du Journal canadien de mathématiques (JCM) et Bulletin canadien de mathématiques (BCM). Le mandat sera de cinq ans et débutera le 1 janvier 2009. La liste des éditeurs qui sont en cours de mandat se trouve ci-dessous..

L'échéance pour proposer des candidats est le 31 octobre 2008.

Les mises en candidature, accompagnées d'un curriculum vitae ainsi que du consentement du candidat(e), devrait être envoyées à l'adresse ci-dessous.

Address for Nominations / Addresse de mise en candidatures:

Matthias Neufang, Chair / Président
CMS Publications Committee / Comité des publications de la SMC
School of Mathematics & Statistics
Carleton University
1125 Colonel By Drive
Ottawa, ON K1S 5B6
mneufang@math.carleton.ca

CURRENT MEMBERS / MEMBRES ACTUELS

CJM Editors-in-Chief / Rédacteurs-en-chef du JCM
H. Kim (Toronto) 12/2011; R. McCann (Toronto) 12/2011.

CMB Editors-in-Chief / Rédacteurs-en-chef du BCM
Nantel Bergeron (York) 12/2010; Jianhong Wu (York) 12/2010.

Associate Editors / Rédacteurs associés
K. Bezdek (Calgary) 12/2011; Steven Boyer (UQAM) 12/2008; J. Colliander 12/2011; W. Craig (McMaster) 12/2007; Luc Devroye (McGill) 12/2009; Alan Dow (York) 12/2010; George Elliott (Toronto) 12/2010; Pengfei Guan (McMaster) 12/2008; K. Hare (Waterloo) 12/2011; Stephen Kudla 12/2008; Thomas Ransford (Laval) 12/2009; Ravi Vakil (Stanford University) 12/2009.

BOOKS RECEIVED

We thank the publishers for the following books received from them:

Wave Scattering by Time-Dependent Perturbations
by G.F. Roach, Princeton 2007
304 pages US$65 (cloth)

Genomic Signal Processing
by Ilya Shmulevich & Edward Dougherty, Princeton 2007, 312 pages US$60 (cloth)

The Design Inference: Eliminating Chance Through Small Probabilities
by William A. Dembski
Cambridge 2006 243 pages US$25 (paper)

How To Prove It: A Structured Approach (2nd ed)
by Daniel J. Velleman
Cambridge 2006 384 pages US$30 (paper)

An Introduction to Cryptography (2nd ed)
by Richard A. Mollin
Chapman & Hall/CRC 2007 413 pages

Handbook of Mathematics for Engineers & Scientists
by Andrei Polyanin and Alexander Manzhirov
Chapman & Hall/CRC 2007
1509 pages

Handbook of Finite Translation Planes
by Norman Johnson, Vikram Jha and Mouro Biliotti
Chapman & Hall/CRC 2007 861 pages

Handbook of Combinatorial Designs (2nd ed)
Charles Colbourn and Jeffrey Dinitz, eds.
Chapman & Hall/CRC 2007 984 pages US$129.95

Synthetic Differential Geometry (2nd ed)
by Anders Kock
LMS Lecture Notes 333
Cambridge 2006 233 pages US$55

Handbook of Linear Algebra
edited by Leslie Hogben
Chapman & Hall/CRC 2007

Stats: Data and Models
by Richard DeVeaux, Paul Velleman and David Bock
Pearson/Addison Wesley 2005
808 pages

Hesiod's Anvil
by Andrew J. Simpson
MAA/Dolciani 2007 344 pages

Numerical Solution of PDEs (2nd ed)
by K.W. Morton and D.F. Mayers
Cambridge 2005 278 pages $43 US (paper)

Certain Number-Theoretic Episodes in Algebra
by R. Sivaramakrishnan
Chapman & Hall/CRC 2007 632 pages

Models of Parametric Statistical Inference
by Seymour Geisser
Wiley 2006 192 pages

Topics on Continua
by Sergio Macias
Chapman & Hall/CRC 2005 361 pages

Analytic Tomography
by Andrew Markoe
Cambridge 2006 400 pages

Stability of Infinite Dimensional Stochastic Differential Equations with Applications
by Kai Liu
Chapman & Hall/CRC 2006 298 pages

Nonstandard Methods and Applications in Mathematics
Nigel J. Cutland et al (eds)
A.K. Peters 2006

Logic Colloquium '03
Viggo Stoltenberg-Hansen et al (eds)
A.K. Peters 2003 408 pages

99 Points of Intersection
by Hans Walser
MAA 2006 153 pages

An Invitation to Modern Number Theory
by Steven J. Miller and Ramin Takloo-Bighash
Princeton 2006 502 pages

Elliptic Theory on Singular Manifolds
by Vladimir E. Nazaikinskii et al
Chapman & Hall/CRC 2006 356 pages

Introduction to Abstract Algebra (3rd ed)
by W. Keith Nicholson
Wiley 2007 511 pages

General Theory of Algebraic Equations
by Etienne Bezout
translated by Eric Feron
Princeton 2006 337 pages

Geometric Algebra for Physicists
by Chris Doran and Anthony Lasenby
Cambridge 2007, 579 pages.US $80 (paper)

OBITUARY Donald Moiseyevitch Solitar (1933-2008)

Professor Donald Solitar, eminent mathematician, occasional poet, and one of York University's originals, passed away unexpectedly, from a heart attack, on Friday, April 25, 2008, at age 75.

Solitar was born September 5, 1932, in Brooklyn, New York. At an early age he showed considerable mathematical gifts. Upon entering Boys High School he joined its mathematics team, which won the championship, in competition with other teams in Brooklyn, three years in a row. Abe Karrass, who was to become Donald's lifetime friend and collaborator, was captain of the team.

Following high school Donald entered Brooklyn College, graduating in 1953 with a B. Sc. While at Brooklyn College he renewed his friendship with Abe Karrass, who acted as his mathematics teacher, essentially replacing all his other teachers.

Donald entered the Graduate Program at Princeton, hoping to study group theory under Emil Artin. Artin, however, had by then turned his attention to class field theory. So Donald got an M. Sc. in Mathematics from Princeton, then moved to New York University, where he got his Ph.D. (in 1958) in Group Theory under Wilhelm Magnus. He joined the Mathematics department at Adelphi University in 1959, where Abe Karrass was soon to join him. It was the start of a very close mathematical collaboration, and the continuation of a very close friendship, which lasted fifty years. It 1967 Solitar moved to the Polytechnic University of New York as Professor of Mathematics.

Solitar came to York in 1968 to head the Mathematics department. He was also Acting Chair of the Computer Science department during 1968-73. Through his efforts and those of Karrass, York's mathematics department soon became a world centre in combinatorial group theory.

In the winter of 1976, in Toronto, Donald met J. Francien Hageman, who was born in Amsterdam, They married a year later.

Professor Solitar was a "lateral thinker", very often coming up with an unexpected viewpoint. He was well known in the international mathematical community, in particular for the now classic book Combinatorial Group Theory, written jointly (in 1966) with his adviser Wilhelm Magnus and with Abe Karrass. The book was subsequently translated into Russian. In 1982 he was elected Fellow of the Royal Society of Canada.

Donald was an inspiring teacher, and in 1985 received an OCUFA Teaching Award. He had an ebullient and in other ways extraordinary personality, and was extremely generous to all he came in contact with.

He is survived by his wife Francien, his sister Miriam, and a large extended family, of which he was the patriarch.

Bob Burns, Israel Kleiner, Alfred Pietrowski

BOOK REVIEW: Something for Everyone *continued*

important "human face" to mathematics, showing readers the vast career flexibility offered to those with a mathematics education. In this second edition of "A Mathematical Mosaic", eleven mathematicians are profiled. So much has passed since they won IMO medals during their high school days. While many have chosen to stay in academia, several have chosen to branch out into the private sector.

One of the profiled mathematicians is now a senior partner at a well-known Wall Street firm specializing in developing financial risk models for hedge funds. Another is working on molecular dynamics simulations using special-purpose parallel computing machines. Yet another runs an online problem-solving organization (www.artofproblemsolving.com) which receives thousands of daily hits from young "mathletes" from all over the world. Among the professors profiled in the book, their work interests span numerous areas of mathematics, and have expanded their research to publish on intelligent design theory and the political landscape of the U.S. Congress. These profiles are an invaluable inspiration to any young mathematician looking for career options beyond graduation. Eleven remarkable men and women are profiled in this book, all of whom are making important and diverse contributions to society.

The second edition of "A Mathematical Mosaic" builds upon the first publication over a decade ago. In addition to the new and updated mathematician profiles, the author includes 34 annotated references, which is significantly more than the first edition. Additional problems and context are provided, including breakthroughs of important mathematical results over the past twelve years. This is an outstanding book, and it would be a welcome resource to anyone with a passion for mathematics.

Youth Science Foundation

by Joseph Khoury
University of Ottawa, Ottawa

For many years, the CMS has provided support for the Canada Wide Science Fair in terms of prizes and judging. I had the privilege to judge on behalf of the CMS Education Committee during the 2008 Fair which took place at the campus of the University of Ottawa. Science fairs provide young scientific minds with an occasion to share ideas and to have their work evaluated and talking to many participants; I felt the importance of these fairs as a source of encouragement to students to develop interests beyond their regular school curriculum.

Ethan Toumishey
St. Stephen High School, NB

The CMS Prize Winner this year was Ethan Toumishey (senior level) from St. Stephen High School, NB for his project "Take a slide down the Learning Curve". In this project, Ethan used a game called "Guess 2/3 of the average" to examine learning behavior when subjects were asked to predict the behavior of others. This game could be solved using a method called the Iterated Elimination of Dominated Strategies (I. E. D. S), which could be modeled by an exponential decay function. The purpose of his experiment was to determine two things. First, if a group of participants were to repeat playing this game, could I. E. D. S. model their learning behavior; and second, whether feedback and incentives could accelerate this learning.

Ethan had two groups repeatedly play the game, one was given feedback and the other received no instruction other than the rules of the game. To determine if the participants' learning could be modeled by I. E. D. S., he employed confidence intervals and t-tests to assess statistical significance. He found that the participants' social learning could be modeled by I. E. D. S. but feedback and incentives had no significant impact on the participants' learning behavior. He also used the mentioned exponential function to demonstrate a universal expression of rationality which would allow his results to be compared with results using a game of different parameters; "Guess 4/5 of the average" for instance.

Congratulations, Ethan, on a well deserved award.

Joseph Khoury,
Chair, Education Committee.

CMS Excellence in Teaching Award

for post-secondary undergraduate teaching in Mathematics

Prix d'exellence en enseignement de la SMC

pour l'enseignement collégial et de premier cycle universitaire en mathématiques

Recognizing sustained and distinguished contributions in teaching. Full-time university, college, two-year college, or CEGEP teachers in Canada with at least five years teaching experience at their current institution can be nominated.

For details regarding nomination procedure, please visit
www.cms.math.ca/prizes
or
http://hed.nelson.com

Deadline for nomination: November 15, 2008

Ce prix récompense des contributions exceptionnelles et soutenues en enseignement. Il s'addresse aux professeures et professeurs d'université, de collège ou de cégep au Canada ayant au moins cinq ans d'expérience dans leur institution présente.

Pour les détails sur la procédure de mise en nomination voir
www.cms.math.ca/prizes
ou
http://hed.nelson.com

Date limite pour soumettre une candidature : 15 novembre 2008

Supported by Nelson Education Ltd.

Appuyé par la compagnie Nelson.

EMPLOYMENT OPPORTUNITY

UNIVERSITY OF OTTAWA

With its strategic location at the heart of Canada's capital, its broad variety of teaching and research initiatives offered in the two official languages, the cosmopolitan environment, and its national perspective, the University of Ottawa is truly Canada's University.

The Department of Mathematics and Statistics of the University of Ottawa invites applications to fill at least two tenure-track positions, one of which is at the Assistant Professor level, and the other at the Assistant or Associate Professor level, starting July 1, 2009. For the Assistant Professor level, we are seeking candidates with at least one year of postdoctoral experience. For the Associate Professor level, we are seeking a candidate that has a proven track-record in research and teaching at both the undergraduate and graduate level, and will be willing and able to supervise graduate students upon arrival. Candidates from all areas of mathematics or statistics are encouraged to apply; however, for one of the positions, priority will be given to candidates in Algebra.

Applicants should send a curriculum vitae, a research plan, and arrange for four confidential letters of recommendation, with one addressing teaching, to be sent to Victor LeBlanc, Chairman, Department of Mathematics and Statistics, University of Ottawa, Ottawa, ON Canada, K1N 6N5. Applicants are also encouraged to include copies of up to three of their most significant publications. The closing date for receipt of applications is **November 7, 2008** or until the positions are filled.

Conditions of employment are set by a collective agreement. Employment equity is University policy and the University strongly encourages applications from women. Canadian citizens and permanent residents will be considered first.

Information about the department can be found at **http://www.mathstat.uottawa.ca**

BOOK REVIEW: Refreshing and Challenging *continued*

displayed mathematics. There are many places in the text like this, where the presentation would have benefited from a more liberal use of white space. The separation of books from journal articles in the bibliography is also at times somewhat annoying. For example, a reference of the form [Ryaxy], where *xy* is a year, could be to either a book or an article, and the reader may have to look in both lists. Also, the notation for references seems clumsy. For example [WW62] gives the reader no hint as to what the reference is; using "Whittaker et al, [n]", where *n* is an integer, is more informative.

There are about 85 books referenced and 35 papers. Despite the fact that the book grew out of a Russian text, the references include many western sources and papers. One strong reservation I have, and it may not be entirely the fault of the authors, concerns the very awkward index. If the reader looks up "Lax-Wendroff", for example, no entry will be found. However, the names are included as a sub-entry of "finite-difference scheme", the entry for which begins on page 525. The reference to "Lax-Wendroff" is on page 526 and looks like a main entry of the index. There is no principal entry for "Lanczos" but "Lanczos" does appear under the principal entry "method". Simpson's method is not a main entry, but is a sub-entry to "formula". Once a reader grasps what is happening, this is not too bad except that in numerical analysis literature terms such as "method", "formula" and "rule" are often used interchangeably.

Overall, this is an interesting book especially for the fact that it does not follow the classic (and I would say boring) format of many numerical analysis texts which claim to be introductions. The authors have produced a text which is very different from other introductory texts. There are enough gems in the book to make it refreshing and challenging.

References:

[1] J.C. Butcher, The Numerical Analysis of Ordinary Differential Equations, Runge-Kutta and General Linear Methods, 1987, John Wiley and Sons.

[2] Gene H. Golub and Charles Van Loan, Matrix Computations, third edition, 1996, The Johns Hopkins University Press.

[3] Phillips J. Davis, Philip Rabinowitz, Methods of numerical integration. Second edition,
1984, Computer Science and Applied Mathematics, Academic Press Inc.

CALL FOR PROPOSALS - 2008 ENDOWMENT GRANTS COMPETITION

The Canadian Mathematical Society is pleased to announce the 2008 Endowment Grants Competition to fund projects that contribute to the broader good of the mathematical community. The Endowment Fund is used to fund such projects and the Endowment Grants Committee (EGC) administers the distribution of the grants and adjudicates proposals for projects. Depending on the performance of the CMS Endowment Fund, the funds available for this year's competition may be less than in past years. Proposals must address the goal and statement of purpose of the Canadian Mathematical Society.

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

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

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

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

The EGC committee tends to favour proposals where CMS funds can be leveraged or where proposals have no other natural funding body to which to apply.

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

Application process. Application forms and templates as well as advice and directions are available at the CMS website www.cms.math.ca/Grants/EGC. Proposals must be received no later than September 30, 2008.

The Chair of the Endowment Grants Committee invites emails expressing interest in the grant as soon as possible

La Société mathématique du Canada (SMC) est heureuse d'annoncer la tenue du Concours de bourses du fond de dotation 2008 pour le financement d'activités qui contribuent à l'essor global de la communauté mathématique. Le Comité d'attribution des bourses du fonds de dotation (CABFD) se charge d'évaluer les propositions et d'attribuer les bourses. Selon le rendement du Fonds de dotation de la SMC, le financement disponible pour le concours de cette année pourrait être inférieur à celui des années précédentes. Les propositions doivent être conformes à l'objectif et à l'énoncé d'intention de la SMC.

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

- Regrouper et appuyer les mathématiciens canadiens en favorisant la communication et l'adhésion à grande échelle, en commanditant diverses activités et en établissant des partenariats avec des associations professionnelles semblables à la nôtre.
- Encourager la recherche mathématique en diffusant les résultats de recherches en cours aux spécialistes et aux non-spécialistes, en faisant reconnaître publiquement les travaux de chercheurs et en collaborant avec les instituts de recherche et les organismes subventionnaires.
- Favoriser l'apprentissage des mathématiques en réalisant des projets avec des professeurs de mathématiques de tous les niveaux, en faisant connaître les progrès dans l'enseignement et en établissant des partenariats avec les ministères de l'éducation provinciaux et les organismes voués à l'apprentissage des mathématiques.
- Défendre les mathématiques en créant des initiatives visant à expliquer, à promouvoir et à mieux faire connaître la discipline, en organisant des activités parascolaires et en encourageant les partenariats avec les sociétés privées, les gouvernements et les organismes à but non lucratif.
- Un demandeur ne peut présenter qu'une proposition par concours en tant que demandeur principal. Les propositions doivent venir de membres de la SMC. S'il s'agit d'un projet conjoint, au moins un des demandeurs principaux doit être membre de la SMC.

Le CABFD évaluera les projets qui s'étalent sur un maximum de trois ans. Les projets s'échelonnant sur plusieurs années seront toutefois financés en fonction des fonds dont disposera le Comité l'année de la demande. Le Comité se limitera aux propositions dont le financement demandé n'excède pas 5 000 $ par année.
De façon générale, le CABFD favorise les propositions où les fonds de la SMC peuvent être équilibrés ou les propositions qui ne disposent d'aucun organisme de financement naturel où postuler.
Si les demandeurs prévoient tirer une valeur financière durable du projet, ils doivent l'indiquer et expliquer leur intention envers cette valeur.
Processus de demande. Le formulaire de demande et gabarits, ainsi que conseils et instructions sont disponible au site de la SMC www.smc.math.ca/Grants/EGC/.f. Les applications doivent être reçues au plus tard le 30 septembre 2008.
Le président du comité invite les courriels décrivant votre intérêt au fond dès que possible.

Dr. Karl Dilcher
Chair, Endowment Grants Committee | Canadian Mathematical Society | 577 King Edward | Ottawa, ON | K1N 6N5
chair-egc@cms.math.ca

CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

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

SEPTEMBER 2008 SEPTEMBRE

13 63rd Algebra Day (Carleton University, Ottawa, ON)

15-19 Emmy Noether Lecture by Karin Erdmann (Erlangen, Germany)
www.dmv2008.unierlangen.de/hauptvortrage.shtml

21-26 Number Theory and Physics at the Crossroads (Banff Research Station, Banff, AB)
www.birs.ca/2008/summer_schools.html

24-28 International Conference on Infinite Dimensional Dynamical Systems
(York University, York ON)

OCTOBER 2008 OCTOBRE

4 Einstein Lecture given by Freeman Dyson, (University of British Columbia, Vancouver, BC)
www.ams.org/amsmtgs/

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

22-24 22nd Midwest Conference on Combinatorics, Cryptography and Computing (University of Nevada, Las Vegas, Nevada)
www.mccc.info

NOVEMBER 2008 NOVEMBRE

2-7 Women in Numbers (Banff Centre, AB)
www.birs.ca

26-31 Interactions Between Noncommutative Algebra and Algebraic Geometry (Banff Research Station, Banff, AB)
www.birs.ca/2008/summer_schools.html

DECEMBER 2008 DECEMBRE

5-8 International Conference on Partial Differential Equations and Applications in honour of Professor Philippe G. Ciarlet's 70th birthday (City University of Hong Kong, Kowloon, Hong Kong)
www6.cityu.edu.hk/rcms/ICPDEA2008/

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

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

JANUARY 2009 JANVIER

5-8 Joint Mathematics Meetings (Washington, D.C.)
www.ams.org/amsmtgs/national.html

FEBRUARY 2009 FEVRIER

23-27 Modern Moduli Theory (MSRI, Berkeley, CA)
www.msri.org/calendar/workshops/workshopInfo/472/show_workshop

MAY 2009 MAI

10-15 ICMI (International Commission on Math Instruction) Study Conference on 'Proof and Proving in Mathematics Education' (Taipei, Taiwan)
www.icmi19.com

JUNE 2009 JUIN

15-18 3rd International Conference On Maths and Stats (Athens, Greece)
www.atiner.gr/

NEWS FROM DEPARTMENTS

University of Ottawa, Ottawa, Ontario

Promotion to Full Professor:

Victor G. LeBlanc (May 1, 2008).

Promotion to Associate Professor, with tenure:

Paul-Eugène Parent; Mateja Sajna(May 1, 2008).

Promotion to Associate Professor:

Monica Nevins (May 1, 2008).

香港城市大學
City University of Hong Kong

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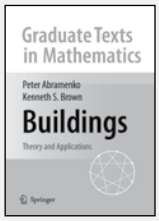

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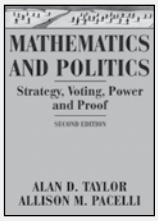

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