



CMS NOTES de la SMC

IN THIS ISSUE DANS CE NUMÉRO

Editorial 2

Book Review:
The Anatomy of Integers 4

Brief Book Reviews 6

CALL FOR NOMINATIONS
Nominating Committee / Comité des mises en candidatures 7

CALL FOR NOMINATIONS
2010 David Borwein Distinguished Career Award 7

Education Notes 8

CMS Excellence in Teaching Award / Prix d'excellence en enseignement de la SMC 12

2009 CMS Winter Meeting Réunion d'hiver SMC 2009 14

CMS Appoints New Executive Director / Un nouveau directeur administratif pour la SMC 21

Calendar of Events Calendrier des événements 22

Math in Moscow Competition Concours Math à Moscou 23

FROM THE PRESIDENT'S DESK

Anthony To-Ming Lau
University of Alberta, Edmonton



I would like to welcome Johan Rudnick who has been appointed as the CMS Executive Director and Secretary of the Canadian Mathematical Society, effective July 15, 2009.

The Society has begun a new era without Graham Wright. I would like to thank Graham for his devotion to the Canadian Mathematical Society over the span of more than 30 years. The search for a new Executive Director was a very challenging one and Graham delayed his retirement plans several times to remain as Executive Director until we found our new Executive Director. Graham has again kindly offered to continue as a "Consultant" till the end of 2009 to ensure a smooth transition for both the CMS and the staff.

I cannot overstate how well served we are by the volunteer effort of so many people in the Canadian Mathematical Society. I would like to take this opportunity to thank all members of the Board of Directors, and the members and Chairs of our many committees for their service to the Society. In particular, I would like to thank Tom Salisbury, who has completed his service as

President-Elect, President and Past President, and to thank Michael Bennett, Gordon MacDonald, Yvan Saint-Aubin and Catherine Sulem, who have completed their two-year terms as Vice Presidents representing the four regions in Canada. I would also like to thank all outgoing members of the Board of Directors: Imin Chen, Olivier Collin, Jennifer Hyndman, Victor LeBlanc, Javad Mashreghi, Robert McCann, Franklin Mendivil, Matthias Neufang, David Pike, Volker Runde and Ravi Vakil.

The 2009 Election has been completed and a full slate of President, Vice Presidents and Members of the Board started on July 1, 2009. I would like to thank Richard Kane for his outstanding job in completing this very difficult task on time.

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. I would also like to thank Joseph Khoury (University of Ottawa), who had served as Associate Executive Director from July 1, 2008 till June 30, 2009.

The 2009 joint Summer Meeting of the Canadian Mathematical Society and the Canadian Society of History and Philosophy in Mathematics which was held from June 6-8 was a great success.

It was hosted by Memorial University of Newfoundland. The meeting had over 400 delegates, who participated in 19 special sessions and a contributed session involving a broad cross-section of the Canadian mathematical sciences community.

The meeting featured 6 outstanding plenary speakers: Elizabeth Billington (Queensland), Jeremy Gray (Open University; Warwick, UK), Michael Mackey (McGill), Susan Montgomery (USC), Michael Sigal (Toronto) and Gaoyong Zhang (Polytechnic Univ.; New York). The Public Lecture was given by Helaman Ferguson (sculptor and mathematician) on Saturday evening.

At this Meeting, we also celebrated the winners of the following prizes: Yael Karshon (Toronto) - CMS Krieger-Nelson Prize, Stephen Kudla (Toronto) - CMS Jeffery-Williams Prize; and David Poole (Trent) - CMS Excellence in Teaching Award. All prizes and awards were presented at the Banquet on June 7th.

During the meeting there were three delegates from the Korean Mathematical Society: Dr. Yong-Geun Oh, Dr. Jae Choon Cha, and Dr. Jong Hae Keum, who participated in a joint session in Algebraic Geometry and Topology organized by the Canadian and Korean Mathematical

Continued page 10

français page 11



I believe that the secret of mathematical exposition, be it a single lecture, be it a whole course, be it a book, or be it a paper, is not the beautifully written sentence, or even the well-thought-out paragraph, but the architecture of the whole thing.

- P. R. Halmos, in an interview conducted by D. J. Albers

One of the joys of an active faculty member is a visit to the department by an expert in some field. The academic and social interactions with the visitor are beneficial in many ways. Usually the visitor gives a talk at a colloquium and/or participates in seminars. Colloquium lectures are open to all faculty members and students.

Graduate students are expected to be present. Those who are interested in the topic of such a lecture are eager to listen to the lecturer. Many others feel obliged to attend out of courtesy. They may not pay full attention to the lecture unless the talk includes interesting stories or anecdotes. They just take a back seat and do their own work quietly.

Once, in Chicago, a graduate student working on his thesis got stuck while writing up his results; he decided to take a break and attend a colloquium talk. He sat there thinking about his problem while paying partial attention to the talk. He told me later that he got the idea to fix his problem from a procedure which the lecturer had adopted in his talk.

Sammy Eilenberg happened to attend a course of lectures on group extensions by Saunders Mac Lane in the Ziwet Lectures at the University of Michigan in 1941. People were surprised to see him leave the room in great haste. They later learned that Sammy had just then realized the important connections between group extensions and topology. This was the start of the Eilenberg-MacLane collaboration.

The mode of presentation in talks has evolved with the progress of technology. Most of the present-day senior mathematicians remember attending talks presented completely by writing everything on blackboards with chalk pieces. Only the very simplest formulae could be communicated orally. Then we had visual backup with the use of hand-written or typed acetate slides; this turned out to be quite effective. The ability to copy diagrams on the slides with the use of Xerox machines added to the efficiency of presentation. And finally today we have Power Point presentations (pps) and TeX-based Beamer. The finer points of using presentation software are still not universally agreed upon, but standards are improving.

A colloquium talk concludes invariably with a session of questions and answers. Questions range from erudite elucidation to frivolous comments. I recall that, some years ago, at the end of a talk on locally convex spaces, someone asked, "What about locally concave spaces?"

It is interesting to see how well known scientists handle questions. Richard Feynman writes "if I'm asked a question, I always say 'differentiate under the integral sign.' More than half the time that will solve the problem, and, if it didn't, they will think that you are really smart." Discussions arising from questions from the audience might turn out to be useful to the speaker for further work.

An audience member may take the opportunity to talk at length while expressing his views. An example of this is reported in [K]; at the end of a lecture on cybernetics by H. Bode, a former head of the mathematics division of Bell Labs, one man stood up, ostensibly to pose a question, and delivered a twenty-minute harangue about his views on cybernetics. Bode made a few polite remarks and closed the session.

If someone asks a pointed question, the questioner can be trumped with an even more pointed answer. An instance of this is given in [K]: Question: Didn't that result appear in Gauss? Speaker: Yes, but it was wrong!

[K] Steven G. Krantz, Mathematical Apocrypha Redux, MAA, 2005.



Letters to the Editors Lettres aux Rédacteurs

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

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

À mon avis, le secret d'un bon exposé mathématique, qu'il s'agisse d'une seule conférence, d'un cours entier, d'un livre ou d'un article, ce n'est pas des phrases bien tournées ou même des paragraphes bien conçus, mais la structure de l'ensemble.

- P. R. Halmos, dans une entrevue menée par D. J. Albers

L'un des plaisirs du travail d'un membre actif du corps professoral, c'est de recevoir la visite dans son département d'un expert dans un domaine donné. Les interactions de nature savante ou sociale que l'on a avec l'invité sont bénéfiques à de nombreux égards. Ainsi, en général, on lui demande de présenter un exposé dans un colloque ou de participer à des séminaires. Tous les étudiants et les membres du corps professoral peuvent assister à ces colloques.

La présence des étudiants des cycles supérieurs y est même attendue. Celles et ceux d'entre eux qui s'intéressent au sujet sont impatients d'écouter ce que le conférencier a à leur dire. D'autres, cependant, se sentent obligés d'assister et le font par courtoisie. Ils ne prêteront qu'une oreille distraite à l'exposé, à moins que celui-ci ne comporte des anecdotes et des récits intéressants. Ils prendront place à l'arrière de la salle et poursuivront leur propre travail en silence.

Je me souviens d'un étudiant diplômé à Chicago qui travaillait à la rédaction de sa thèse. Butant sur un problème relié à la présentation de ses résultats, il décida de faire une pause et d'assister à une conférence dans le cadre d'un colloque. Trop absorbé par son problème, il n'accorda qu'une attention partielle à ce qui était dit. Il m'a confié plus tard que la solution à son problème lui a été inspirée par la procédure que le conférencier avait adoptée pour son exposé.

En 1941, Sammy Eilenberg assistait à une série de conférences que donnait Saunders MacLane sur les extensions de groupe dans le cadre des Ziwet Lectures de l'Université du Michigan. À un moment donné, Eilenberg a quitté la salle précipitamment au grand étonnement de l'auditoire. On apprit par la suite que Sammy venait de prendre conscience des liens importants qui existaient entre les extensions de groupe et la topologie. Ce fut le début de sa collaboration avec MacLane.

Le mode de présentation des exposés a évolué sous l'influence des progrès technologiques. La plupart des mathématiciens plus âgés se souviennent d'avoir assisté à des exposés présentés entièrement par écrit, craie à la main, sur un tableau noir. Seules les formules les plus simples pouvaient alors être communiquées oralement. Puis, nous avons bénéficié d'outils visuels qui se sont avérés très efficaces, comme les acétates sur lesquels on pouvait écrire à la main ou dactylographier. L'efficacité

des exposés s'est accrue encore plus avec la capacité de copier des diagrammes sur les acétates à l'aide d'appareils Xerox. Et enfin, aujourd'hui, nous utilisons des présentations PowerPoint et des présentations « beamer » à base TeX. On ne s'entend peut-être pas toujours sur la façon de tirer le meilleur parti de ces logiciels de présentation, mais les standards à ce chapitre ne cessent d'augmenter.

Un colloque se termine invariablement par une séance de questions et réponses. Les questions posées alors sont parfois des demandes de clarification érudites autant

[suivre page 20](#)

NOTES DE LA SMC

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CMS NOTES

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The Anatomy of Integers

edited by Jean-Marie De Koninck, Andrew Granville and Florian Lucia, American Mathematical Society, 2009
297 pages, \$99.00 US ISBN 978-0821844069

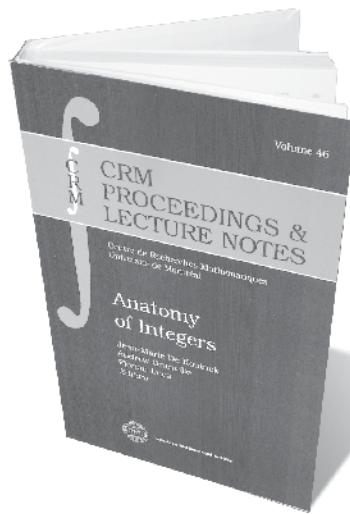
Reviewed by Greg Martin, UBC

The CRM workshop *Anatomy of Integers* was held at the Université de Montréal from March 23–27, 2006, as part of a special thematic year on analytic number theory. The workshop included four series of three lectures each, given by Kevin Ford, Dan Goldston, Carl Pomerance, and K. Soundararajan, as well as several other plenary lectures and a number of contributed talks. The book under review is the proceedings from that workshop; roughly half of the book consists of articles from the plenary lecturers, while the other half consists of contributed papers.

The new phrase “anatomy of integers”, introduced in conjunction with this workshop, refers to a part of analytic number theory that has existed at least since the middle of the 19th century and that is perhaps best exemplified by the “elementary” yet intricate and highly insightful work of Paul Erdős. *Anatomy of integers* is concerned primarily with (1) the number and distribution of integers with particular multiplicative properties, and (2) the quantity and size of factors of integers, both typical and extreme. The approximate independence of different arithmetic properties is a third common theme. Applications of such anatomical results in discrete math as a whole are plentiful and often surprisingly powerful.

The prime number theorem, which states that the number of primes less than x is asymptotically $x / \log x$, is the prototypical example of the first sort of anatomical theorem. One generalization concerns the number $\omega(n)$ of distinct prime factors of n : we know asymptotically the number of integers up to x for which $\omega(n)$ equals any fixed value. Considering $\Omega(n)$, the number of prime factors of n counted with multiplicity, instead of $\omega(n)$ does not change the asymptotic formula—in fact, the difference $\Omega(n) - \omega(n)$ is bounded on average, and the set of integers n with $\Omega(n) - \omega(n)$ equal to any fixed value has positive density. We also have asymptotic formulas for the counting functions of “friable” numbers, which are numbers without large prime factors (in English, the terminology “friable number” is more descriptive, but less entrenched, than the older “smooth number”).

Regarding the second sort of anatomical theorem, a classic result of Hardy and Ramanujan states that almost all integers n have asymptotically $\log \log n$ prime factors (here, “almost all integers” means that the set of such integers has limiting density 1). This result was strengthened to a central limit theorem: the Erdős–Kac theorem is the statement that $\omega(n)$ acts, in the statistical limit, like a normal variable whose mean and variance are both $\log \log n$. Again both statements remain true for $\Omega(n)$, and from this we can deduce a result for



the typical size of the number $\tau(n)$ of positive divisors of n : because of the elementary inequalities $2^{\omega(n)} \leq \tau(n) \leq 2^{\Omega(n)}$, we see that $\tau(n)$ is roughly $(\log n)^{\log 2}$ for almost all integers n . On the other hand, an earlier result of Dirichlet is that the average value of $\tau(n)$ is asymptotically $\log n$. This dissonance between the mode and the mean of τ reveals that the average value is influenced by a small number of integers with abnormally many divisors, which is typical of the insights with which the anatomy of integers can provide us. Another way of measuring the “compositeness” of an integer is with the function $\vartheta(n)/n$, where ϑ is the Euler phi-function; it is another classical result that $\vartheta(n)/n$ has a continuous limiting distribution function, for example.

The twin primes conjecture, which is the statement that there are infinitely many primes p for which $p + 2$ is also prime, exemplifies the idea of approximate independence of arithmetic properties: being two more than a prime (an additive property) and being a prime number (a multiplicative property) should be roughly independent properties. A similar example is the conjecture, also unresolved, that any irreducible polynomial should take infinitely many prime values.

Finally, the following two examples describe typical applications of anatomical results. A Carmichael number is a number that masquerades as a prime number where Fermat’s little theorem is concerned; in other words, it is a composite number n such that $a^n \equiv a \pmod{n}$ for every integer a . Alford, Granville, and Pomerance proved that there are infinitely many Carmichael numbers; in addition to machinery from analytic number theory, they used the anatomical result that there exist integers such that a large number of their divisors are one less than a prime. Another excellent number theoretic result is Erdős’s “multiplication table” theorem, which states that the proportion of integers up to N^2 that appear in the $N \times N$ multiplication table tends to zero as N tends to infinity. The idea of the proof, brilliant in its simplicity, is that almost all integers in the multiplication table are the product of two “typical” integers less than N and hence have about $2 \log \log N$ prime factors by the aforementioned theorem of Hardy and Ramanujan; however, almost all integers less than N^2 have closer to $\log \log N^2 = \log \log N + \log 2$ prime factors, so typically don’t appear in the multiplication table.

Turning to the articles in the volume under review, some of them provide information about the number and distribution

of integers with particular multiplicative properties. For example, Soundararajan establishes the equidistribution of friable numbers in arithmetic progressions whose common difference is suitably bounded in terms of the upper bound on the prime factors. Tenenbaum and Wu derive some very precise asymptotic formulas for average values of multiplicative functions restricted to friable numbers, and also for average values of multiplicative functions weighted according to their largest prime factor.

Even more of the papers refine our understanding of the typical and extreme quantity and size of factors of integers. Khan establishes a quantitative version of the Erdős–Kac theorem with a smooth weighting function, which allows him to show that the integers with almost exactly the average number of prime factors have a Poisson distribution (i.e., are distributed randomly, as anticipated); while Kuo and Liu establish central limit theorems for a class of additive functions, including $\omega(\mathcal{O}(n))$ for example. Erdős, Luca, and Pomerance investigate distributional questions about the fractions $\mathcal{O}(n)/n$ when reduced to lowest terms. As an example of the surprising precision of anatomical theorems, they prove that for almost all integers n , the greatest common divisor of n and $\mathcal{O}(n)$ is exactly the largest divisor of n whose prime factors are all at most $\log \log n$.

Some of these papers investigate local correlations of multiplicative functions: De Koninck and Luca probe sums that quantify the independence of $f(n)$ and $f(n + 1)$, while Wong shows that a class of additive functions evaluated on k -tuples of linear polynomials can simultaneously approximate arbitrarily given real numbers. Ng shows that the expected independence of the values of the Möbius μ function (which takes only the values 0 and ± 1) on k -tuples of linear polynomials implies that the summatory function $\sum_{n \leq x} \mu(n)$ acts like the analogous random walk in short intervals (in contrast to the global behavior of the sum, which has a more complicated limiting distribution).

The counting functions of the number of integers that have exactly r divisors between the parameters y and z are studied by de la Bretèche and compared in particular to the number of integers that have at least one divisor between y and z . Such precise information about the sizes of the divisors of integers has important applications: as a notable example, Ford's paper strengthens Erdős's "multiplication table" theorem dramatically, showing that the order of magnitude of the number of distinct integers in the $N \times N$ multiplication table is $N^2(\log N)^{-\delta}(\log \log N)^{-3/2}$, where $\delta = 1 - (1 + \log \log 2) / \log 2 \approx 0.086$.

As mentioned earlier, the belief that polynomials should take prime values infinitely often, in the absence of obvious congruential obstacles, is an example of the approximate independence of multiplicative and additive properties. The book under review contains a survey article by Baier and Zhao on primes represented by quadratic polynomials, while Pollack discusses the question of whether polynomials whose

coefficients themselves lie in a polynomial ring must have special values that are irreducible in that ring (this is the "function field analogue" of the classical question). Blomer looks at the representation of integers by positive definite ternary forms, in particular $x^2 + y^2 + z^2$, and investigates whether such representations exist when multiplicative restrictions are put on x, y, z ; such questions are related to modular forms of weight $3/2$.

Examples of elegant applications of the anatomy of integers to other problems are also found in this volume. Nicolas derives lower bounds for how often the partition function $p(n)$ takes even or odd values; teasing such information from the modular form that arises in this notoriously hard problem is connected to the distribution of integers for which the factorization into prime powers contains only boundedly many primes that occur with multiplicity one. A paper of Maier quantifies the counterintuitive fact that the coefficients of cyclotomic polynomials $\Phi_n(t)$ eventually grow quite large. By counting integers with prime factorizations of a carefully constructed type, he shows that for any constant $A > 1$, the integers n such that Φ_n has a coefficient larger than n^A in absolute value have positive density (and almost all integers have this property as A decreases to 1).

A nice paper of Helfgott ties together all of the threads described in this review. It is an application of anatomical results, and the application is to an independence question: Helfgott proves that given a cubic polynomial $f(t)$ with integer coefficients, there are infinitely many primes p for which $f(p)$ is squarefree, i.e., for which $\Omega(f(p)) = \omega(f(p))$. One needs to bound the number of "bad situations" where $f(p)/q^2 = d$, with q a large prime, and Helfgott accomplishes this in two steps. In this first step, he shows that any bad integer d can arise only from a small number of primes p ; in addition to Diophantine geometry, this step uses as a technical device the fact that almost all integers d have a very large divisor d' with very few prime factors. In the second step, he shows that almost all integers d can never be part of a bad situation, by examining the factorization of d into prime ideals in the splitting field of f . The probability that $f(n)$ and d are squares modulo various primes ℓ is connected to the numbers of points on the elliptic curves $y^2 \equiv f(t) \pmod{\ell}$, and the known variation in these numbers of points causes enough maldistribution to make such integers d suitably rare.

Space does not permit a more complete description of the contents of the volume under review; there are some results from analytic and combinatorial number theory as well. It is probably a coincidence, but an extremely fortunate one, that many researchers who have worked on the anatomy of integers are excellent expositors. We have all experienced the frustration of trying to make sense of a seemingly unmotivated collection of technical tools in a field of research new to us; it is quite satisfying to read in these papers some pretty descriptions of the insights behind the methods of proof, so that the application of technical anatomical results seems natural rather than confounding.

Who gave you the Epsilon? and other Tales of Mathematical History

by M. Anderson, V. Katz, R. Wilson Editors MAA,
Spectrum Series, MAA Washington, DC. x+429 pages,
\$65.50 US, ISBN 978-088385-569-0

This is an excellent choice either as a textbook for a course in the modern history of mathematics or as a source of interesting and thought provoking articles to read for enjoyment. It consists of reprints of 41 articles from MAA publications (mostly from the monthly and mathematics magazine) on historical topics from the 19th and 20th centuries together with three short articles recommending further reading and bringing some of the stories up to date. There is a wealth of material to choose from. Some noteworthy gems are Tom Archibald's on Green's second identity, an article on the African American mathematical statistician David Harold Blackwell, a 10 page introduction to algebraic topology by Peter Hilton and two articles on the history of algebra by Israel Kleiner. For the earlier history of mathematics the MAA volume *Sherlock Holmes in Babylon* by the same authors is recommended.

Recountings: Conversations with MIT Mathematicians

by Joel Segel, A.K. Peters Ltd.,
Wellesley, MA 2009, 330 pages,
\$49.00 US, ISBN 978-1-56881-449-0

Recountings is a collection of interviews with mathematicians retired from the MIT mathematics department (and with the widow of the long time chair of the department). As such one would think that interest in it would be restricted to MIT alumni or, at a stretch, mathematicians who had spent some of their careers in the Boston area. This is not the case for several reasons. One, of course, is that the cast of characters includes so many familiar names known for their theorems or writings or both. How many of us have Coddington and Levinson's Differential Equations on our bookshelf, or Hoffman and Kunz' Linear Algebra? Here is a glimpse of the authors and the milieu that produced these classics. The interviewer and editor, Joel Siegel, is sufficiently knowledgeable both of mathematics and of MIT, to have steered the interviews towards the most interesting aspects of the department's history. For example he is careful to get comments on John Nash's time at MIT giving several new perspectives which can be compared with that in the Nasser biography. For the general (i.e. not Boston connected) reader the principal attraction of this book may, I think, be the way it resonates with one's own experience of life in mathematics. There are examples here of a dozen successful careers in mathematics described first hand, with frank comments on the importance of the choice of thesis supervisor and thesis topic, of publications and teaching and even of when is the appropriate point in a career to

publish a book. One surprising aspect of the examples here is the diversity. While there are examples of the private school–Princeton–Harvard–MIT career path there are also ones passing through public schools and universities, through small village schools on a remote island, and through the turmoil of post-war Eastern Europe.

Communicating Mathematics in the Digital Era

by J.M. Borwein, E.M. Rocha, J.F. Rodrigues Eds.,
A.K. Peters, Ltd, Wellesley, MA 2008,
XII+325 pages, ISBN 978-1-56881-410-0

That the computer has revolutionized the presentation and transmission of mathematical results is an idea most would find self-evident. Starting roughly from the introduction of Donald Knuth's computer typesetting system TeX we have progressed in 30 years to a point where authors prepare and sometimes publish their own paper, readers find almost the entire literature of mathematics as near as their laptop and researchers have instant access to their co-workers in other countries or on other continents. What the possible future evolution of such a world (and what its possible disadvantage) might be is the topic of this volume, growing out of a conference of the same title held in conjunction with the 2006 ICM. Grouped roughly into three sections – Electronic publishing and digital libraries, Technological enhancements for disseminating mathematics, and Educational and cultural frameworks – the papers give a good survey both of current practices and of possible future developments. Two papers of particular interest are J. Ewing's "The digital downside" warning of some of the risks of electronic publishing and Caprotti, Seppala and Xambo's "Toward autonomous learners of mathematics" giving some well-chosen observations on the educational consequences of the digital revolution.

Pythagora's Revenge

by Arturo Sangalli,
Princeton University Press, Princeton NJ 2009,
XV+ 183 pages \$24.95 US, ISBN 978-0-691-04955-7

Mathematics and mathematicians rarely occur in modern fiction, and when they do the inaccuracies and outright errors that usually result make mathematicians squirm (the novels of Dan Brown are particular examples of this). It is therefore a pleasure to find a readable novel in which mathematics plays a central role without being mangled. Pythagora's Revenge is a mystery woven around a search for a lost manuscript. It has appealing characters, a fast moving plot and an accurate treatment of some important ideas in the philosophy of mathematics. While the ending is abrupt (and something of a deus ex machina) the book is both enjoyable and substantial, a rare combination.

CALL FOR NOMINATIONS Nominating Committee

The term of office of the Chair and two members of the Nominating Committee ends on **December 31, 2009**.

The positions to be filled are as follows:

One vacancy: Chair

One vacancy: Representative for the Atlantic region

One vacancy: Representative for the Western region

The term of office of the Chair is two years plus an additional two years as a member of the committee for the appropriate region. The term for the other members is four years.

The continuing members will be:

Henri Darmon (McGill) – Quebec

Richard Kane (Western) – Ontario

Jacques Hurtubise (McGill) – Ex-officio (President-Elect)

Anthony Lau (Alberta) – Ex-officio (President)

The deadline for submission of candidates is **October 15, 2009**. Names, together with the candidate's agreement to serve, should be sent to the address below.

APPEL DE CANDIDATURES Comité des mises en candidatures

Les mandats du président et pour deux membres du comité des mises en candidatures prennent fin le **31 décembre 2009**.

Les positions à combler sont les suivantes:

Une position : Président

Une position : Représentant pour la région de l'Atlantique

Une position : Représentant pour la région de l'Ouest

Le mandat du président est de deux ans plus deux années supplémentaires comme membre du comité pour la région appropriée. Pour les autres membres, le mandat est de quatre ans.

Les membres qui continueront sont :

Henri Darmon (McGill) – Québec

Richard Kane (Western) – Ontario

Jacques Hurtubise (McGill) – Ex-officio (Président-élu)

Anthony Lau (Alberta) – Ex-officio (Président)

L'échéance pour nommer des candidats est le **15 octobre 2009**. Les noms, avec consentement de candidat, devraient être acheminés à l'adresse ci-dessous :

Johan Rudnick, Secretary / Secrétaire
Canadian Mathematical Society / Société mathématique du Canada
105 – 1785 Alta Vista Drive Ottawa, Ontario K1G 3Y6

CALL FOR NOMINATIONS **2010 David Borwein Distinguished Career Award**

The David Borwein Distinguished career award recognizes mathematicians who have made exceptional, broad, and continued contribution to Canadian mathematics.

A complete nomination dossier consists of:

- A signed nomination statement from a present or past colleague, or collaborator (no more than three pages) having direct knowledge of the nominee's contribution;
- a short curriculum vitae, no than five pages;
- Two to four letters of support in addition to the nomination;
- Other supporting material may be submitted, no more than 10 pages.

A nomination can be updated and will remain active for three years. Six copies of the complete nomination dossier must arrive at the CMS Executive Office no later than **November 15, 2009**.

APPEL DE MISES EN CANDIDATURE **Prix David-Borwein de mathématicien émérite pour l'ensemble d'une carrière 2010**

Le prix David-Borwein de mathématicien émérite pour l'ensemble d'une carrière rend hommage à un mathématicien qui a fait une contribution exceptionnelle et soutenue aux mathématiques canadiennes.

Le dossier de candidature comprendra les éléments suivants :

- une lettre de mise en candidature signée par un collègue ou un collaborateur actuel ou des années passées (trois pages maximum) qui connaît très bien les réalisations de la personne proposée;
- un bref curriculum vitae, maximum de cinq pages;
- de deux à quatre lettres d'appui, en plus de la mise en candidature;
- tout autre document pertinent, maximum de 10 pages.

Toute mise en candidature est modifiable et demeurera active pendant trois ans. Le dossier complet, en six exemplaires, doit parvenir au bureau administratif de SMC au plus tard le **15 novembre 2009**.

Selection Committee / Comité de sélection
David Borwein Distinguished Career Award / Prix David Borwein pour carrière distinguée
Canadian Mathematical Society / Société mathématique du Canada
105-1785 Alta Vista Dr., Ottawa, ON K1G 3Y6

JUMP revisited

On Saturday, November 8, 2008, Margaret Wente reported in the *Globe and Mail* on the JUMP program under the title *Any kid can learn mathematics*. I have known about this program almost from the time of its establishment in 1998 by John Mighton and have been generally aware of its increasing success over the last decade to the extent that it is now run by a large organization, has a charitable designation and a program of professional development and publication that has international scope. This program has made its appearance twice on these pages, the first time in October, 2001 (Vol. 33:6) when John described his philosophy and again in September, 2003 (Vol. 33:5) when his book *The Myth of Ability* was reviewed. Wente's article reminded me that I had promised to report on the program as it evolved.

John Mighton fell into tutoring elementary students while he was a graduate student at the University of Toronto, and developed an approach that was quite successful. He was convinced that virtually every student was capable of learning mathematics (JUMP is an acronym of "Junior undiscovered mathematics prodigies"), and that the key was to break the mathematics into digestible components and ensure that each was thoroughly mastered by the whole group of pupils before proceeding to the next, all the while giving lavish encouragement and generous praise to the pupils.

At first, as news of the effectiveness of JUMP spread, he trained tutors in the use of his methods, but this soon extended to an operation run out of the Fields Institute in Toronto with administrative assistance. Word of JUMP's effectiveness spread; Mighton has received requests from other jurisdictions to train teachers and now it is employed in many places. I contacted him recently about JUMP, and he responded that there are studies afoot to analyze its effectiveness – two educational researchers are reviewing data from a study it conducted in Vancouver; a controlled study is underway to follow 15 JUMP and 15 control classrooms for six months in an Ontario school district; rigorous studies are planned with a group of cognitive scientists and neurologists. He notes that "many cognitive scientists are interested in JUMP because they believe that the program takes account of the newest research on how the brain learns". I received from him evaluations of the program in a Toronto private school, in Vancouver and in Lambeth, England.

The program does have its detractors. Relying on a great deal of practice, it is seen by some progressive educators as a return to dreaded rote techniques and in at least one board, teachers are actively discouraged from its use. However, as the discussion below will show, this criticism seems to be superficial.

The Mabin School

The Mabin School is a small private school in downtown Toronto that was founded a quarter century ago by a talented elementary teacher, Geraldine Mabin, who in fact taught my son at the Institute of Child Study. Starting about four years ago, the JUMP program was used for students in Grades 3, 4 and 5. The grade 5 teacher reported that, after two weeks, pre- and post-

test results showed an improvement for every student, marked in some cases (one from 22% to 100%), with the lowest posttest grade of 87%; the remarks from the grades 3 to 5 teachers were uniformly favourable. It is worth noting the testimony of Mary Jane Moreau, a teacher with 16 years experience:

I . . . had found effective ways to meld the use of concrete materials, math games and projects with the JUMPmath resources. . . . Daily observation of enthusiasm for math, focus, understanding of lessons, ease of consolidation of concepts, test results and ability to remember prior learning showed steady, incremental improvement in all students. Even more striking was how the 'weaker' students were 'catching up'.

Vancouver

Lavana Heel, learning services consultant at the Vancouver School Board, first became aware of JUMP in 2006 when John Mighton gave a training session at Waverley Elementary School. She worked closely with JUMP to facilitate four sessions to train teachers and several sessions for mentors to support teachers during the year. In September 2007, she presented a report that laid out in detail the responses of teachers that used the program. Again, they were uniformly enthusiastic, perhaps because "at all times Dr. John Mighton emphasizes the importance of teacher input to increase the effectiveness of the JUMP program. The openness and reciprocal relationship with teachers has served to enhance the program." Several of the teachers spoke of greater clarity and their own deeper understanding. One noted that "it always begins with the simplest aspects of concepts and slowly, incrementally adds steps, but only when prior steps are mastered: students always get excited about the next level of complexity because of previous successes at the first level". Heel concludes that the program "serves as a model to view closely as a means to explore and study inclusion, teaching practices, memory devices, differentiated instruction and the importance of affect in the teaching process".

Lambeth

Finally, there are two reports from Nikki Aduba, the Primary Strategy Manager in Lambeth, a London, England, borough with a large immigrant population (149 languages, 44% black population in its 79 schools). Following a two-week pre-pilot program in 2005, Lambeth schools were invited to participate in a pilot program during the summer term of 2006. The most challenging students were invited to participate, those who at the end of Year 5 were not expected to achieve level 4 status. Twenty-four schools volunteered to take part and their teachers attended training and "progress" sessions. The most striking outcome was a change in the attitude of students, who became more confident and better behaved, and willing to share what they had learned with their peers. As well as marked improvements in grades, teachers reported "their own heightened awareness of the progression towards understanding of mathematical concepts" and increase in their own enjoyment. The results were positive and the program was continued and now seems to be well established. The only negative aspect that I found in the reports was a decrease in the abilities of pupils in mental mathematics, but this will be explored as the program develops.

Analysis

In January 2009, at a meeting of the Mathematics Education Forum at the Fields Institute, Nathalie Sinclair of Simon Fraser University and Joan Moss of the Ontario Institute for Studies in Education, reported on their own research into the effectiveness of the program in Vancouver. They observed that, with any reform program, while teachers may buy into the goals of the reform, it is often with a low level of fidelity (i.e., their classroom practice does not gibe with the program's ethos and best practices, an effect that can be unconscious and unintended). According to their observations of JUMP, the fidelity of teachers to the program is high. To study this, they delineated four main goals of the program: to engage the collective, to build confidence, to provide continual assessment and to raise the bar incrementally. These can be signified through a number of routines that are part of classroom practice: waiting until all hands are up, use of questions requiring short answers, the giving of hints, rephrasing and clarifying, frequent checking of work, quizzes during class, use of extra questions to keep pupils busy as well as bonus problems, references to practices of mathematicians, use of tables and lists to organize work, students working in books, the use of dramatic techniques by the teacher. The high adoption of almost all of these routines was attributed to the consonance of the program with the desire of the teachers to support all their children, the explicitness of the training and the ease of modelling of the routines.

What makes a program successful and how can you tell? More to the point, in the long term, how do you measure whether the program has been beneficial? It is easy to envisage a situation where a program might achieve short-term goals (such as getting students through a standardized test) but be quite pernicious in inhibiting a deeper understanding or a productive attitude towards mathematics. This does not seem to be the case here. JUMP suggests that there are many ways in which a program can be successful. It could provide students directly with a base of knowledge and technique that allows them to proceed. But it could also set them up with a conception of mathematics that allows them to progress, even with material for which the program does not directly prepare them. Finally, the program might serve to empower students, so that they can proceed with enhanced confidence and a willingness to engage with challenging material. All three of these criteria seem to be in play here. While test scores give some indication, it seems difficult to assess more longterm and deeper aspects of mathematical attainment. I will let Brent Davis of the University of British Columbia have the last word:

To my analysis, what John's approach does better than most other programs is what I would call micro-analysis and a cross-analysis of concepts, BOTH helping novice learners to notice little details that more expert learners often gloss over AND alerting learners to diversities of interpretation and their affordances. . . . I think it's a well developed complement to the current surge in interest in teachers' disciplinary knowledge. Part of John's brilliance . . . is that he sees this and has found a way to support teachers' understandings without insulting them by highlighting how little many actually know.

What are the keys to student success?

Those of us who teach incoming university students are impelled not only to cover the mathematics but to take note of the difficulty that many have in making the transition to university and to offer advice on how they may ultimately succeed. It is to be expected that some seasoned lecturers will take pen in hand on this topic, and the current book under review is an example.

How to succeed in college mathematics: a guide for the college mathematics student.

Richard Dahlke, BergWay Publishing, PO Box 701785,
Plymouth, MI 48170-0970
www.bergwaypublishing.com, 2008 xv+622 pages

Richard Dahlke brings to this rather prolix book thirty-four years of teaching lower-division courses at the University of Michigan in Dearborn. Its 600 pages cover a range of topics that include both useful information and sound advice to help students get the most out of their university experience: the college environment, organization of courses and programs, prerequisites, admission and internal examinations, time management and study skills, confidence building, the nature of mathematics, reading mathematics texts, working exercises and solving problems, balance of responsibilities of teacher and student. Although written for an American audience, a Canadian student will find much that is useful. However, its length means that it cannot be read from cover to cover. It is intended to be a resource book, and chapters and sections of chapters stand alone.

Despite this, the author views almost everything in the life of a college student as related, so that actions in one direction can affect areas. The table of contents and index make the book convenient to navigate.

There is much in this book that I have said myself to incoming university students, and the author covered the fundamental points for students to heed if they are to be successful. Basically, students are invited to a maturity that engenders accepting responsibility for their learning, grasping their interests and capabilities, formulating their goals, working independently but knowing when and how to access assistance and what they can reasonably expect from their instructors. I was pleased to note Dahlke's insistence on having an attitude towards mathematics that leads them to probe for meaning and coherence. However, there are a few points that bear emphasis. An important issue in any teaching-learning situation is the alignment of what the student can bring with what the instructor can deliver. Often, a productive relationship is confounded by a clash of expectations about the outcome. Students come with ideas about learning along with mathematical conceptions that may be inadequate, fuzzy or just plain wrong. A good instructor will take this into account, observing that teaching may have destructive as well as constructive aspects, so that they can make contact with students; correspondingly, students must expect that their notions will be challenged and deepened. Furthermore, no matter how inspired the teaching and articulate the textbook, for robust learning to

EDUCATION NOTES *continued*

occur, students need to put the material through “their own sieve”, coming to terms with it in their own way. The failure of some students to appreciate this is exemplified in some of the student comments, which the author uses and analyzes to good effect.

In some cases, I felt that, while I essentially agreed with the author, some shading of his comments is necessary. One issue, for example, is the taking of lecture notes; for many students, there is a conflict between taking notes and being able to follow along during the lecture. Some students simply try to get everything down and sort it out later, without the benefit of having understood anything at all as it was said. They need to be more selective in what they record. Part of the answer is for them to be completely up to date and to at least skim the textbook in advance so that they have some idea as to what is coming. They should record carefully the statement of a result or example, but be sparing with the proof or solution, putting down the key ideas, just enough to allow them to reconstruct the details when they get home. Certainly, I agree with Dahlke that the notes should be reviewed quickly after the lecture, but am not sure that it is necessary to make a fair copy. One bit of advice for students who must have detailed notes is to work with a friend: one takes notes while the other listens, the notes are photocopied and one briefs the other after the lecture.

Another section that needs elaboration concerns final grades. It is certainly true that students harbour naive assumptions about their performances being redeemable by the bell curve, but the author seems to be optimistic about the lack of pressure on instructors to give other than honest grades. Unfortunately,

in many environments, mathematics departments can get grief from parents and faculty oversight committees about grades, and an untenured instructor must always keep course evaluations in mind. There are also subtle pressures. Instructors do not want to disadvantage students in more demanding courses, who need the currency of grades to retain scholarships, seek employment and get accepted to graduate studies, especially when the GPA can factor in a shaky start to sabotage an otherwise fine academic career. However, the advice to students to do their best and not rely on the system to bail them out is well-taken.

One topic not covered in the book is plagiarism and the distinction between legitimate and illegitimate student collaboration. While cheating has always been with us, in the past, with less recourse to technology and less emphasis on term grades, it was manageable. In many schools the problem is serious. While it may be the result of ignorance, it can also be a matter of students deliberately defrauding the system, especially if grades are merely a means to an end. Students need to be aware that this is unfortunately part of the academic landscape, be left in no doubt as to what is admissible and ethical behaviour, and be persuaded that in the long term the main persons being cheated are themselves when they may end up with no long term benefit from their education.

This comprehensive and practical book is a worthwhile purchase for any student embarking on a university career who wants to get a leg up on what to expect and how to manage the experience. It can also find a place on the bookshelves of advisors, undergraduate reading rooms and libraries.

FROM THE PRESIDENT'S DESK *continued*

Societies. Partial funding for this session was provided by PIMS and the CMS. Unfortunately Dr. Dohan Kim, President of the Korean Mathematical Society, and two other Korean delegates were not able to come.

Two of the sessions were organized by the Canadian Society for the History and Philosophy of Mathematics (CSHPM): *History and Philosophy of Mathematics* and *History of the Relationship Between Mathematics and the Physical Sciences*.

The Mathematics Education session, which took place in collaboration with the Numeracy Symposium (June 8 and 9), was organized by the Canadian Language and Literacy Research Network.

The session on Groups and Hopf Algebras and the International Workshop on Groups and Hopf Algebras (June 3 - 5, 2009) were organized by the Atlantic Algebra Centre, affiliated with Memorial University of Newfoundland and the Atlantic Association for the Research in Mathematical Sciences (AARMS).

I would like to express our gratitude to the sponsors of this Meeting: AARMS, CRM, the Fields Institute, Memorial University of Newfoundland, MITACS and PIMS.

The Scientific Director, David Pike (Memorial) and the Chair of Local Arrangements, Danny Dyer (Memorial) worked tirelessly to provide an attractive and varied program and they deserve our considerable thanks.

Such a meeting requires much dedication and drive, and would not have been possible without the hard work of the meeting directors, the session organizers, and especially the CMS staff.

Since the beginning of the year, we have been conducting a “Membership Campaign”. Representatives in almost all departments are talking to colleagues, requesting they join CMS. Presently we have 857 members, up from 743 a year ago. Among them, about 200 are life-time members, 160 retired and 63 graduate students. I would like to see our membership reach 1,000 by the end of the year. So, if you are not yet a member, please join us. If you are a member, please convince a colleague to join us.

Finally, I would also like to thank all those who have generously donated to the Society.

The 2009 Winter Meeting will be hosted by the University of Windsor and I look forward to seeing many of you there.

DU BUREAU DU PRÉSIDENT

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

J'aimerais d'abord souhaiter la bienvenue à Johan Rudnick, le nouveau directeur administratif et secrétaire de la Société mathématique du Canada en poste depuis le 15 juillet 2009.

La Société entre dans une ère nouvelle sans Graham Wright. Je tiens à remercier Graham pour ses 30 années (et plus) de dévouement au service de la Société mathématique du Canada. La recherche d'un nouveau directeur administratif nous a donné du fil à retordre, et Graham a dû repousser ses projets de retraite à plusieurs reprises et rester en poste jusqu'à ce que nous lui ayons trouvé un successeur. Graham a eu la gentillesse de rester au service de la Société à titre de conseiller jusqu'à la fin de 2009 afin d'assurer une transition harmonieuse pour la SMC et son personnel.

Je ne saurais trop dire à quel point la Société est bien servie par l'apport d'un si grand nombre de bénévoles. J'aimerais remercier les membres du Conseil d'administration ainsi que les membres et présidents de nos nombreux comités pour leur contribution à la Société. Je remercie tout particulièrement Tom Salisbury, dont les mandats successifs de président élu, de président et de président sortant viennent de se terminer, ainsi que Michael Bennett, Gordon MacDonald, Yvan Saint-Aubin et Catherine Sulem, qui viennent eux aussi de terminer des mandats de deux ans comme vice-présidents représentant les quatre régions du Canada. Merci aussi aux membres sortants du Conseil d'administration : Imin Chen, Olivier Collin, Jennifer Hyndman, Victor LeBlanc, Javad Mashreghi, Robert McCann, Franklin Mendivil, Matthias Neufang, David Pike et Ravi Vakil.

Suite aux élections de 2009, une nouvelle cuvée de président, vice-présidents et membres du Conseil entre en fonction au 1^{er} juillet 2009. Merci à Richard Kane d'avoir accompli cette tâche fastidieuse dans les temps prévus et avec brio.

La Société dans son ensemble est très chanceuse de bénéficier du concours de son personnel administratif à Ottawa. Je tiens aussi à remercier Joseph Khoury (Université d'Ottawa), qui a occupé le poste de directeur administratif adjoint du 1^{er} juillet 2008 au 30 juin 2009.

La Réunion d'été 2009, organisation conjointe de la SMC et de la Société canadienne d'histoire et de philosophie des mathématiques (SCHPM), a connu un franc succès. Tenue à l'Université Memorial (Terre-Neuve) du 6 au 8 juin, elle a accueilli plus de 400 participants qui ont pris part à 19 sessions spéciales et à une session de communications libres et qui formaient une tranche représentative de la communauté mathématique canadienne.

Au programme, six conférences plénières exceptionnelles : Elizabeth Billington (Queensland), Jeremy Gray (Open Univ.; Warwick, Royaume-Uni), Michael Mackey (McGill), Susan Montgomery (USC), Michael Sigal (Toronto) et Gaoyong Zhang (Polytechnic Univ.; New York). C'est le sculpteur et mathématicien Helaman Ferguson qui a prononcé la conférence publique du samedi soir.

Lors de cette Réunion, nous avons aussi souligné les réalisations

des lauréats suivants : Yael Karshon (Toronto) - prix Krieger-Nelson de la SMC, Stephen Kudla (Toronto) - prix Jeffery-Williams de la SMC et David Poole (Trent) - Prix d'excellence en enseignement de la SMC. Tous ces prix ont été remis au banquet du 7 juin.

Trois représentants de la Société coréenne de mathématiques, Yong-Geun Oh, Jae Choon Cha et Jong Hae Keum, ont pris part à une session sur la géométrie et la topologie algébriques organisée en collaboration par les sociétés mathématiques canadienne et coréenne. Cette session a été financée en partie par le PIMS et la SMC. Le président de la Société coréenne de mathématiques, Dohan Kim, ainsi que deux autres délégués coréens n'ont malheureusement pas pu participer à la session. La SCHPM a organisé deux sessions de cette Réunion : *Histoire et philosophie des mathématiques* et *Histoire des relations entre les mathématiques et la physique*.

La session sur l'éducation mathématique s'est pour sa part donnée en collaboration avec le Symposium sur la numératie (8 et 9 juin), organisé par le Réseau canadien de recherche sur le langage et l'alphabétisation.

Quant à la session sur l'algèbre des groupes et l'algèbre de Hopf, et à l'atelier international sur le même sujet (3-5 juin 2009), ils ont été organisés par l'Atlantic Algebra Centre, affilié à l'Université Memorial de Terre-Neuve et l'Association pour l'avancement de la recherche mathématique en Atlantique (AARMA).

J'aimerais remercier les commanditaires de ce congrès : l'AARMA, le CRM, l'Institut Fields, l'Université Memorial, le Réseau MITACS et le PIMS.

Le directeur scientifique, David Pike (Memorial), et le président du Comité de logistique local, Danny Dyer (Memorial), ont travaillé sans relâche pour nous offrir un programme attrayant et varié. Ils méritent nos plus sincères remerciements.

Un événement de cette envergure exige un dévouement et une vigueur sans pareil, et n'aurait jamais vu le jour sans le travail assidu des directeurs de la Réunion, des organisateurs de sessions et surtout du personnel de la SMC.

Une grande campagne de recrutement est en branle depuis le début de 2009. Dans presque tous les départements, nos représentants s'efforcent de convaincre leurs collègues de se joindre à la SMC. En ce moment, la Société compte 857 membres, comparativement à 743 il y a un an, dont 200 membres à vie, 160 retraités et 80 étudiants diplômés. Mon souhait : atteindre les 1 000 membres d'ici la fin de l'année. Vous n'êtes pas encore membre de la SMC? N'attendez plus! Vous êtes déjà membre? Incitez vos collègues à le devenir!

Enfin, j'aimerais remercier toutes les personnes qui ont fait preuve de générosité en faisant un don à la Société.

L'Université de Windsor sera l'hôte de la Réunion d'hiver 2009, et j'espère avoir le bonheur de vous rencontrer en grand nombre à cette occasion.

CALL FOR NOMINATIONS
PIMS Postdoctoral Fellowship Competition



**Pacific Institute *for the*
Mathematical Sciences**

The Pacific Institute for the Mathematical Sciences (PIMS) invites nominations of outstanding young researchers in the mathematical sciences for Postdoctoral Fellowships for the year 2010-2011. Candidates must be nominated by one (or more) scientists affiliated with PIMS or by a Department (or Departments) affiliated with PIMS. The fellowships are intended to supplement support made available through such a sponsor. The Institute supports fellowships tenable at any of its Canadian member universities: Simon Fraser University, the University of Alberta, the University of British Columbia, the University of Calgary, the University of Victoria, University of Regina and the University of Saskatchewan, as well as at the University of Lethbridge (a PIMS affiliate).

For the 2010-2011 competition, held in January of 2010, the amount of the award will be \$20,000 and the sponsor(s) is (are) required to provide additional funds to finance a minimum stipend of \$40,000.

Award decisions are made by the PIMS PDF Review Panel based on the excellence of the candidate, potential for participation in PIMS programs and potential for involvement with PIMS partners. PIMS Postdoctoral Fellows will be expected to participate in all PIMS activities related to the Fellow's area of expertise and will be encouraged to spend time at other sites. To ensure that PIMS Postdoctoral Fellows are able to participate fully in Institute

activities, they may not teach more than two single-term courses per year. Nominees must have a Ph.D. or equivalent (or expect to receive a Ph.D. by December 31, 2010) and be within three years of their Ph.D. at the time of the nomination (i.e., the candidate must have received her or his Ph.D. on or after January 1, 2007). The fellowship may be taken up at any time between September 1, 2010 and January 1, 2011. The fellowship is for one year and is renewable for at most one additional year.

Details

The PIMS PDF nomination/application process will be take place entirely online this year, utilizing the MathJobs service provided by the American Mathematical Society. Having selected their nominees, sponsors direct them to apply online at mathjobs.org/jobs/PIMS. Nominees are required to upload **two letters of reference**, a **curriculum vitae** and a **statement of research interests**. Sponsors must also upload their own **reference letters** (these are in addition to the two reference letters mentioned just above) and **statements of anticipated support** to MathJobs; they will receive instructions as to how to proceed from their nominees via email from MathJobs. Detailed instructions regarding all aspects of the MathJobs application procedure may be found in the online MathJobs user guides. Please note that application is by nomination only; unsolicited applications will not be considered.

Complete applications must be uploaded to MathJobs by **December 15, 2009**.

For further information, visit: www.pims.math.ca/scientific/postdoctoral.

CMS Excellence in Teaching Award
for post-secondary undergraduate teaching in Mathematics

Prix d'excellence 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, 2009

Supported by
Nelson Education Ltd.



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

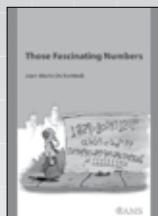
Pour les détails sur la procédure de mise en candidature voir :

www.smc.math.ca/Prix
ou
<http://hed.nelson.com>

Date limite pour soumettre une candidature :
15 novembre 2009

Appuyé par
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NEW Publications from the AMS



Those Fascinating Numbers

Jean-Marie De Koninck, *Université Laval, Québec, QC, Canada*

Translated by Jean-Marie De Koninck

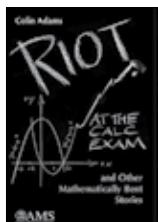
The author of this book demonstrates that listing positive integers along with their most remarkable properties is a highly engaging adventure, constantly challenging the reader on various topics in number theory. The book serves as an important platform for exploring several new concepts, such as the index of composition and the index of isolation of an integer.

A large variety of numbers are contemplated in the book, including Fermat numbers, Mersenne primes, powerful numbers, sublime numbers, Wieferich primes, insolite numbers, Sastry numbers and voracious numbers. Included are several tables of particular families of numbers, such as the list of all 88 narcissistic numbers and the list of the eight known numbers that are not prime powers but can be written as the sum of the cubes of their prime factors.

Unlike other books that merely exhibit interesting properties of numbers, this book offers more, including short proofs of key results, various algorithms and new research projects in number theory. Each of its open problems stands for an enigma that will feed the reader's curiosity.

The author, known in Canada for creating a positive public image of mathematics, offers material that will appeal to a broad audience. Undergraduates and laypersons will find that many properties of integers are relatively easy to understand, while graduate students and researchers will be engaged by the many open problems in classical number theory.

2009; 426 pages; Softcover; ISBN: 978-0-8218-4807-4; List US\$49; AMS members US\$39; Order code MBK/64

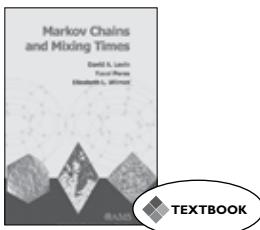


Riot at the Calc Exam and Other Mathematically Bent Stories

Colin Adams, *Williams College, Williamstown, MA*

A humorous romp through the world of mathematics, making its culture less intimidating to the general audience

2009; 271 pages; Softcover; ISBN: 978-0-8218-4817-3; List US\$32; AMS members US\$26; Order code MBK/62

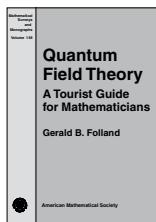


Markov Chains and Mixing Times

David A. Levin, *University of Oregon, Eugene, OR*, Yuval Peres, *Microsoft Research, Redmond, WA*, and Elizabeth L. Wilmer, *Oberlin College, OH*

An introduction to the modern approach to the theory of Markov chains, emphasizing probabilistic methods

2009; 371 pages; Hardcover; ISBN: 978-0-8218-4739-8; List US\$65; AMS members US\$52; Order code MBK/58

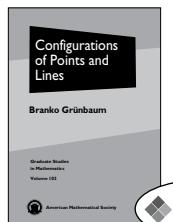


Quantum Field Theory A Tourist Guide for Mathematicians

Gerald B. Folland, *University of Washington, Seattle, WA*

A world-class expositor's presentation of the elements of quantum field theory in a form accessible to mathematicians

Mathematical Surveys and Monographs, Volume 149; 2008; 325 pages; Hardcover; ISBN: 978-0-8218-4705-3; List US\$89; AMS members US\$71; Order code SURV/149

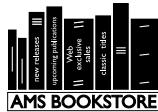


Configurations of Points and Lines

Branko Grünbaum, *University of Washington, Seattle, WA*

The first coherent account of the advances made in geometric configurations of points and lines since the resurgence of interest in the topic

Graduate Studies in Mathematics, Volume 103; 2009; 399 pages; Hardcover; ISBN: 978-0-8218-4308-6; List US\$75; AMS members US\$60; Order code GSM/103



1-800-321-4AMS (4267), in the U.S. and Canada, or 1-401-455-4000 (worldwide); fax: 1-401-455-4046; email: cust-serv@ams.org. American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA



RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

December 5 - 7 décembre Windsor (Ontario)
www.cms.math.ca



The Canadian Mathematical Society (CMS, www.cms.math.ca) and the University of Windsor (www.uwindsor.ca/math) invite the mathematical community to the 2009 CMS Winter Meeting. The program will include ten plenary, prize and public lectures, and a wide variety of sessions.

All scientific talks and social events will take place at the Hilton Hotel and the adjoining Radisson Hotel; the registration desk will be located in the Riverfront Club Room of the Hilton Hotel.

Host / Hôte
University of Windsor

Meeting Directors / Directeurs de la réunion
Dan Britten (Windsor, britten@uwindsor.ca),
Ejaz Ahmed (Windsor, seahmed@uwindsor.ca)

La Société mathématique du Canada (SMC) (www.smc.math.ca) et l'Université de Windsor (www.uwindsor.ca/math) invitent la communauté mathématique à la Réunion d'hiver 2009 de la SMC. Au programme : dix conférences (plénières, publique et de lauréats) ainsi qu'une grande diversité de sessions.

Toutes les activités scientifiques et sociales se dérouleront aux hôtels Hilton et Radisson (adjacents); la table d'inscription sera située dans la salle Riverfront Club du Hilton.

Prizes and Awards / Prix

Coxeter-James Prize – Patrick Brosnan (UBC)
Doctoral Prize – Mark Braverman (Toronto)
Adrien Pouliot Prize – Walter Whiteley (York)
G. de B. Robinson Award – TBD

Public Lecture / Conférence publique

Alan H. Schoenfeld (Berkeley)

Plenary Speakers / Conférenciers pléniers

Jonathan Borwein (SFU)
Anthony To-Ming Lau (Alberta)
Naomi Leonard (Princeton)
Nancy Reid (Toronto)
Christine Shoemaker (Cornell)
David Vogan (MIT)

SESSIONS

By invitation of the Meeting Committee, there will be sessions in the following areas. The list of speakers is preliminary, and participants interested in delivering a talk in one of the sessions should contact one of the organizers of that session.

À l'invitation du comité de coordination, des sessions sont prévues dans les domaines ci-dessous. La liste de conférenciers est préliminaire, et l'on demande à toute personne intéressée à présenter une communication dans l'une des sessions de contacter l'un des organisateurs de la session en question.

Banach Algebras and Abstract Harmonic Analysis Algèbres de Banach et analyse harmonique abstraite

Org: Zhiguo Hu, Mehdi Monfared (Windsor)
Brian E. Forrest (Waterloo), Fereidoun Ghahramani (Manitoba),
Colin C. Graham (UBC), Kathryn E. Hare (Waterloo), Monica Ilie (Lakehead), Wojciech Jaworski (Carleton), Mehdi Monfared (Windsor), Matthias Neufang (Carleton), Chi-Keung Ng (Nankai, China), Zhong-Jin Ruan (Illinois), Volker Runde (Alberta), Ebrahim Samei (Saskatchewan), Bertram M. Schreiber (Wayne State), Nico Spronk (Waterloo), Keith Taylor (Dalhousie), Faruk Uygul (Carleton), Yong Zhang (Manitoba)

Complex Analysis

Analyse complexe

Org: André Boivin, Tatyana Foth (Western)
Nadya Askaripour (Western), Line Baribeau (Laval), David Barrett (Michigan), Ilia Binder (Toronto), Thomas Bloom (Toronto),

Peter Duren (Michigan), Paul Gauthier (Montréal), Ian Graham (Toronto), Alexander Izzo (Bowling Green State Univ.), Loredana Lanzani (Arkansas), Lina Lee (Michigan), Javad Mashreghi (Laval), Eric Schippers (Manitoba), Vasilisa Shramchenko (Sherbrooke)

Convex and Variational Analysis

Analyse convexe et variationnelle

Org: Heinz Bauschke, Shawn Wang (UBC Okanagan),
Abdo Alfakih (Windsor), Heinz Bauschke (UBC - Okanagan),
Jonathan Borwein (Newcastle, Australia), Rick Caron (Windsor),
Rafal Goebel (Loyola), Warren Hare (UBC - Okanagan), Yuri Ledyaev (Western Michigan), Yves Lucet (UBC - Okanagan), Russell Luke (Delaware), Boris Mordukhovich (Wayne State), Hristo Sendow (Western), Levent Tuncel (Waterloo), Bingwu Wang (Eastern Michigan), Shawn Wang (UBC - Okanagan), Henry Wolkowicz (Waterloo), Vera Zeidan (Michigan), Jim Zhu (Western Michigan)

RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

Exact and Approximate Methods for Nonlinear Differential Equations

**Méthodes exactes et approximatives pour la
résolution des équations différentielles non-linéaires**
Org: Alexei F. Cheviakov, George W. Patrick (Saskatchewan)

History and Philosophy of Mathematics Histoire et philosophie des mathématiques

Org: Tom Archibald (SFU)

Lie Algebras and Representation Theory

Algèbres de Lie et théorie des représentations

Org: Nicolas Guay (Alberta), Michael Lau (Windsor)
Punita Batra (HRI-Allahabad), Georgia Benkart (Wisconsin-Madison), Chris Brav (Toronto), Xueqing Chen (Wisconsin-Whitewater), Gerald Cliff (Alberta), Ivan Dimitrov (Queen's), Rinat Kedem (Illinois), Joel Kamnitzer (Toronto), Jochen Kuttler (Alberta), Silvia Montarani (Toronto), Erhard Neher (Ottawa), Alistair Savage (Ottawa), Jie Sun (Ottawa), Kaiming Zhao (Wilfrid Laurier)

Lie Groups and Automorphic Forms

Groupes de Lie et formes automorphiques

Org: Hadi Salmasian, Wai Ling Yee (Windsor)

Mathematical Models in Environmental Sciences

Modèles mathématiques en sciences environnementales

Org: Rick Caron (Windsor)

Mathematical Statistics

Statistiques mathématiques

Org: Jiahua Chen (UBC), Chi Song Wong (Windsor)
Hanfeng Chen (Bowling Green State Univ.), Jiahua Chen (UBC), Abbas Khalili (McGill), Reg Kulperger (Western), Helene Massam (York), Johanna Neslehova (McGill), Wei Ning (Bowling Green State Univ.), Junfeng Shang (Bowling Green State Univ.), Christopher Small (Waterloo), David Stephens (McGill), David Wolfson (McGill), Chi Song Wong (Windsor), Yuehua (Amy) Wu (York), Grace Yi (Waterloo), Rong Zhu (McMaster)

Mathematics Education

Éducation mathématique

Org: Dragana Martinovic (Windsor)

Matrix Theory and Statistics

Théorie matricielle et les statistiques
Org: Ejaz Ahmed, Abdul Hussein (Windsor)

Measure, Probability, and Stochastic Processes

Mesure, probabilité et processus stochastique
Org: Severien Nkurunziza, Tim Traynor (Windsor)

Non-Linear Control Theory

Théorie de contrôle non-linéaire

Org: Andrew Lewis, Abdol-Reza Mansouri (Queen's)

Number Theory

Théorie des nombres

Org: Kevin Hare (Waterloo), Soroosh Yazdani (McMaster), Michael Coons (Fields), Xander Faber (McGill), Patrick Ingram (Waterloo), Vishaal Kapoor (UBC), Matilde Lalín (Alberta), Greg Martin (UBC), Romyar Sharifi (McMaster; Arizona), Veronika Shelestunova (Waterloo), Kaneenika Sinha (Alberta), Scott Sitar (UBC), Kate Stange (Harvard; PIMS), Cam Stewart (Waterloo), John Voight (Vermont), Gary Walsh (Ottawa), Chester Weatherby (Queens), Hugh Williams (Calgary), Erick Wong (UBC)

Operator Algebras

Algèbres d'opérateurs

Org: Mitja Mastnak (Saint Mary's), Dilian Yang (Windsor)

Real and Complex Singularities

Singularités en analyse réelle et complexe

Org: Janusz A. Adamus (Western)

Recent Trends in Discrete Geometry

Tendances récentes de la Géométrie discrète

Org: Károly Bezdek (Calgary), Antoine Deza (McMaster), Karoly Bezdek (Calgary), Bob Connelly (Cornell), Richard Caron (Windsor), Antoine Deza (McMaster), William Hua (McMaster), Asia Ivic Weiss (York), Gabor Pataki (North Carolina), David Richter (Western Michigan), Elissa Ross (York), Tamon Stephen (SFU), Csaba D. Toth (Calgary), Walter Whiteley (York), Thomas Zaslavsky (SUNY Binghamton)

Contributed Papers

Communications libres

Org: to be determined / à venir



WANTED: Books for Review RECHERCHÉS : Livres pour critiques littéraires

Have you written a book lately?

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

Avez-vous écrit un livre récemment?

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

Keith Johnson, Department of Mathematics and Statistics, Dalhousie University, Halifax NS B3H 3J5

RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

Business Meetings

Executive Committee Meeting: Thursday, December 3,
Hilton, Ontario Room

Development Group Luncheon: Friday, December 4,
Hilton, Ontario Room

Board of Directors Meeting: Friday, December 4,
Hilton, Ontario Room

Social Events

Welcoming Reception: Friday, December 4,
Hilton, Riverfront Club Room

Banquet: Sunday, December 6,
St. Clair's Centre for the Arts, Canadian Club Room

Complimentary coffee and juice will be available during the
scheduled breaks.

Registration

The registration form will be available shortly 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 15. Receipts will be provided at the meeting.

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

Abstract Submission

For abstracts of talks to be published on-line and in the meeting programme, they have to be submitted by October 15, 2009, using the on-line form. The organizers appreciate the cooperation of all speakers in observing this important deadline. Abstracts will appear on the website within 10 working days of the date of submission.

If you encounter inconsistent display of fonts in your browser, please consult the provided PDF version of the abstract, which corresponds to the printed program.

Contributed Papers Submission

Papers of 20 minutes duration are invited. For an abstract to be eligible, the abstract must be submitted online by October 15, 2009. The abstract must be accompanied by its contributor's registration form and payment of the appropriate fees. To better assist the organizers, please include the Primary (2000) AMS Classification (www.ams.org/msc/).

Refund Policy

Participants wishing to cancel their registration must notify the CMS (meetings@cms.math.ca) in writing by November 15 to receive a refund less a \$40 processing fee. Those whose contributed paper has not been accepted will upon request be fully refunded.

	ONLINE	ONSITE
	Early rate until Sep 30	Regular rate Oct 1 - Nov 15
Prize Lecturer (incl. 2 free banquet tickets)	\$ 0	\$ 0
Plenary, Public Lecturer (incl. 1 free banquet ticket)	\$ 0	\$ 0
Students	\$100	\$125
Postdoc, Retired, K-12 Teachers, Unemployed	\$150	\$180
CMS members, Organizers and Speakers	\$310	\$350
Non-Members	\$465	\$515
One-day fee (onsite only)	-	\$195
Banquet ticket	\$ 60	\$ 60

Accommodation

The hotels listed below are 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.

Hilton Hotel Windsor

277 Riverside Drive West,
Windsor, Ontario, Canada N9A 5K4
Tel: 1-519-973-5555, Fax: 1-519-973-1600

Group code: Canadian Mathematical Society

Booking deadline: November 6, 2009

Rate: \$119 per night (plus applicable taxes), quadruple occupancy

Guest Accommodations

All guest rooms enjoy a lovely east or west river/skyline view featuring the Hilton Serenity Bedding Collection with pillow-top mattress, luxurious bedding, duvets and feather pillows. Deluxe, panoramic view rooms are also available for a small additional fee and feature a full direct spectacular river view. Amenities include: Fitness room, indoor pool, business centre with printer, ATM, foreign currency exchange.

RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

Directions & Transportation

From City Centre Detroit - Take the Detroit/Windsor Tunnel south, exit left onto Park Street West, right on Ouellette Ave and left on Riverside Drive West, the hotel is located at 277 Riverside Drive West.

From Toronto Area - Take Highway 401 southwest, exit at 3B north (Detroit Tunnel) to Downtown Windsor, turn left onto Riverside Drive West, the hotel is located on left hand side at 277 Riverside Drive West.

Check-in: 3:00 pm

Check-out: 12:00 pm

Parking: Self parking - \$11 per day,

Valet parking - \$21 per day

Radisson Riverfront Hotel Windsor

333 Riverside Drive West,

Windsor Ontario, Canada N9A 5K4

Reservations: 1-800-395-7046 US/Canada Toll-free

Tel: 1-529-977-9777 Fax: 1-519-977-1411

Group code: Canadian Mathematical Society

Booking deadline: November 6, 2009

Rate: \$109 per night (plus applicable taxes), quadruple occupancy

Amenities: business centre, fitness centre, indoor pool

Check-in: 3:00 pm

Check-out: 12:00 pm

Travel

A taxi fare from the airport to downtown costs approximately \$20. Detailed information regarding the city of Windsor 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:

- Discover Windsor: www.visitwindsor.com
- Ontario Travel: www.ontariotravel.net
- Windsor-Detroit Border Crossing: www.crossingmadeeasy.com
- Windsor International Airport (YQG): www.windsorairport.net
- Detroit Metro Airport (DTW): www.metroairport.com
- Canada Weather Forecast: www.weatheroffice.ec.gc.ca

Graduate Student Travel Support

With the support of CRM, the Fields Institute, MITACS, PIMS and the University of Lethbridge (Jiping [Jim] Liu Memorial Travel Fund), grants 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 31, 2009 to gradtravel-w09@cms.math.ca. Applicants will be notified early in November 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-w09@cms.math.ca.

Exhibits

Exhibits will be open from 9:30 am to 4:00 pm on Saturday and Sunday in the Riverfront Club Room of the Hilton Hotel.

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, located in the registration area.

Sponsors

Support from the following organizations 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 (CRM)
- The Fields Institute
- MITACS
- Pacific Institute for the Mathematical Sciences (PIMS)

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



RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

Séances de travail

Réunion du Comité exécutif : le jeudi 3 décembre, Hilton, salle Ontario

Lunch du Groupe de développement : le vendredi 4 décembre, Hilton, salle Ontario

Réunion du Conseil d'administration : le vendredi 4 décembre, Hilton, salle Ontario

Activités sociales

Réception d'accueil : le vendredi 4 décembre, Hilton, salle Riverfront Club

Banquet : le dimanche 6 décembre, St. Clair's Centre for the Arts, salle Canadian Club

Du café et des jus seront servis durant les pauses prévues à l'horaire.

Inscription

Vous pourrez bientôt 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 15 novembre pour que nous ayons le temps de traiter votre paiement avant le congrès. Les reçus seront remis sur place.

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 15 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.

CMS Summer Meeting 2010
Host: University of New Brunswick - Fredericton
June 4 - 6, 2010, Fredericton, New Brunswick

CMS Winter Meeting 2010
Host: University of British Columbia
December, 2010, Vancouver, British Columbia

	EN LIGNE	SUR PLACE	
	Inscr. hâtives jusqu'au 30 sept	Tarif normal 1 oct - 15 nov	
Conférencier primé (2 billets pour le banquet)	0 \$	0 \$	0 \$
Conférencier (conf. plénière ou publique) (1 billet pour le banquet)	0 \$	0 \$	0 \$
Étudiants	100 \$	125 \$	150 \$
Étudiants postdoctoraux, retraités, enseignants (mat., prim., sec.), sans emploi	150 \$	180 \$	210 \$
Membres de la SMC, organisateurs et conférenciers	310 \$	350 \$	390 \$
Non-membres	465 \$	515 \$	565 \$
Tarif quotidien (sur place seulement)	-	-	195 \$
Billet pour le banquet	60 \$	60 \$	60 \$

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 2009. Veuillez utiliser le formulaire électronique au smc.math.ca/forms/abs-w09. Les organisateurs remercient les conférenciers de bien vouloir respecter cette importante échéance. Les résumés seront publiés sur le site dans les 10 jours ouvrables suivant la date de réception.

Si vous remarquez des erreurs d'affichage (polices de caractère) à la navigation, veuillez utiliser la version PDF du résumé, qui correspond fidèlement à la version imprimée.

Communications libres

Nous lançons un appel de communications libres de 20 minutes chacune. Les résumés devront nous parvenir au plus tard le 15 octobre 2009 (Veuillez utiliser le formulaire électronique). Nous demandons à chacun de joindre au résumé le formulaire d'inscription et le règlement des frais pertinents. Pour faciliter la tâche des organisateurs, veuillez préciser la classification de sujets AMS 2000 (www.ams.org/msc/).

Hôtel Hilton, Windsor

277 Riverside Drive West,
Windsor, Ontario, Canada N9A 5K4
Tél. : 1-519-973-5555, Fax : 1-519-973-1600

Code de groupe : Société mathématique du Canada

Date limite de réservation : 6 novembre 2009

Tarif : 119 \$ la nuit (plus taxes), quatre personnes

Réunion d'été 2010 de la SMC
Hôte : Université de Nouveau-Brunswick
4 - 6 juin 2010, Fredericton (Nouveau-Brunswick)

Réunion d'hiver 2010 de la SMC
Hôte : Université de Colombie-Britannique (UBC)
décembre 2010, Vancouver (Colombie-Britannique)

RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

Chambres et services

Toutes les chambres offrent un point de vue est ou ouest sur la rivière ainsi que le confort des matelas et surmatelas de la collection « Hilton Serenity », literie de luxe, douillettes en duvet et oreillers de plume. L'hôtel offre aussi des chambres « Deluxe » ou avec vue panoramique moyennant un léger supplément. Ces chambres offrent une vue directe spectaculaire sur la rivière. L'hôtel offre de nombreux services, dont une salle d'exercice, une piscine intérieure, un centre d'affaires avec imprimante, un guichet automatique et un service de change.

Indications et transport

Du centre-ville de Detroit – Empruntez le tunnel Detroit/Windsor sud, sortez sur la gauche sur la rue Park ouest, tournez à droite sur Ouellette puis à gauche sur Riverside ouest. L'hôtel est au 277 Riverside Drive West.

De Toronto – Empruntez l'autoroute 401 direction sud-ouest, prenez la sortie 3B nord (tunnel Detroit) vers le centre-ville de Windsor, puis tournez à gauche sur Riverside ouest. L'hôtel est sur la gauche, au 277 Riverside Drive West.

Arrivée : 15 h

Départ : 12 h

Stationnement : libre-service : 11 \$ par jour; service voiturier – 21 \$ par jour

Hôtel Radisson Riverfront, Windsor

333 Riverside Drive West,

Windsor Ontario N9A 5K4, Canada

Réservations : 1-800-395-7046 É-U/Canada sans frais

Tél. : 1-529-977-9777 Fax : 1-519-977-1411

Code de groupe : Société mathématique du Canada

Date limite de réservation : 6 novembre 2009

Tarif : 109 \$ la nuit (plus taxes), quatre personnes

Services : centre d'affaires, salle d'exercice, piscine intérieure

Arrivée : 15 h

Départ : 12 h

Déplacements

Le trajet en taxi de l'aéroport au centre-ville coûte autour de 20 \$.

Vous trouverez des renseignements détaillés concernant la ville de Windsor 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 :

- Discover Windsor : www.visitwindsor.com
- Tourisme Ontario : www.ontariotravel.net
- Frontière Windsor-Detroit : www.crossingmadeeasy.com
- Aéroport international de Windsor (YQG) : www.windsorairport.net
- Aéroport de Detroit (DTW) : www.metroairport.com
- Service météorologique du Canada (www.meteo.gc.ca)

Aide financière pour étudiants diplômés

Grâce au soutien financier du CRM, de l'Institut Fields, du Réseau MITACS, du PIMS et de l'Université de Lethbridge (fonds Jiping [Jim] Liu), les étudiants diplômés du Canada ou de l'étranger peuvent se faire rembourser 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 31 octobre 2009 (gradtravel-w09@smc.math.ca). Les décisions seront annoncées au début de novembre. 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-w09@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 Riverfront Club du Hilton.

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 la table d'adhésion et l'exposition de livres de la SMC dans l'aire d'inscription.

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 (CRM)
- Institut Fields
- MITACS
- Institut du Pacifique pour les sciences mathématiques (PIMS)

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



RÉUNION D'HIVER SMC 2009 CMS WINTER MEETING

THURSDAY/JEUDI December 3 décembre	SATURDAY/SAMEDI December 5 décembre	SUNDAY/DIMANCHE December 6 décembre	MONDAY/LUNDI December 7 décembre
18:00-22:00 Executive Committee Meeting Réunion du Comité exécutif (Hilton Hotel, Trillium Suite)	8:00 – 16:30 Registration/Inscription 9:30 – 16:00 Exhibits/Expositions	8:00 – 16:30 Registration/Inscription 9:30 – 16:00 Exhibits/Expositions	8:00 – 16:00 Registration/Inscription
	8:15 – 8:30 Opening/Ouverture	8:00 – 10:00 Scientific Sessions	8:00 – 9:30 Scientific Sessions
	8:30 – 9:15 Plenary Lecture		9:30 - 10:15 Plenary Lecture
	9:30-10:00 Break / Pause	10:00-10:30 Break / Pause	10:15-10:30 Break / Pause
FRIDAY/VENDREDI December 4 décembre	10:00 – 11:30 Scientific Sessions	10:30 – 11:15 Plenary Lecture	10:30 – 11:15 Naomi Leonard Plenary Lecture
11:00 AM – 13:00 Development Group Luncheon Lunch du groupe de développement (Hilton Hotel, Ontario Room)	11:30 – 12:15 Prize Lecture	11:30 – 12:15 Prize Lecture	11:30 – 12:15 Prize Lecture
13:30 – 18:30 Board of Directors Meeting Réunion du conseil d'administration (Hilton Hotel, Ontario Room)		12:30 – 14:00 Lunch Break	
	14:00-15:00 Scientific Sessions	14:00-15:00 Scientific Sessions	
	15:00 – 15:45 Plenary Lecture	15:00 – 15:45 Plenary Lecture	14:00-16:30 Scientific Sessions
		Break / Pause	
	16:00– 18:00 Scientific Sessions	16:00 – 17:30 Scientific Sessions	
18:30-20:00 Welcome Reception Réception d'accueil	18:00-19:00 Alan H. Schoenfeld Public Lecture	18:30 - 19:00 Reception (cash bar) Réception (bar payant)	
	19:00-20:00 Reception / Réception	19:00 – 22:00 Banquet	

(as of August 20, 2009)

ÉDITORIAL SUITE

que des commentaires frivoles. Ainsi, je me souviens d'une occasion, il y a quelques années, à la conclusion d'un exposé sur les espaces localement convexes, où quelqu'un dans la salle a demandé : « Parlez-nous donc des espaces localement concaves. »

Il est intéressant de voir comment les scientifiques célèbres répondent aux questions qu'on leur pose. Richard Feynman a écrit à ce propos : « Si l'on me pose une question, je réponds toujours : "Veuillez dériver sous le signe d'intégration". Plus de la moitié du temps, cela résout le problème, sinon on pense que vous êtes drôlement intelligent. » Il arrive aussi que les discussions découlant des questions de l'auditoire s'avèrent utiles pour les travaux subséquents du conférencier.

Parfois, un membre de l'auditoire profite de l'occasion pour exposer longuement son opinion sur le sujet. On rapporte un tel cas dans [K]. À la fin d'une conférence

sur la cybernétique donnée par H. Bode, ancien directeur de la Division des mathématiques des Laboratoires Bell, un homme s'est levé – apparemment pour poser une question – et s'est lancé dans une harangue de vingt minutes pour dire ce qu'il pensait de la cybernétique. Quand il eut terminé, Bode fit quelques remarques polies et leva la séance.

Signalons enfin que si quelqu'un pose une question acerbe, une bonne riposte est d'y répondre d'une façon encore plus caustique. Voici l'exemple d'une telle répartie que donne [K] : Question : « Ce résultat n'est-il pas apparu dans Gauss? » Conférencier : « Oui, mais il est erroné! »

[K] STEVEN G. KRANTZ, Mathematical Apocrypha Redux, Mathematical Association of America, 2005.

ANNOUNCEMENT / ANNONCE



Johan Rudnick

CMS APPOINTS NEW EXECUTIVE DIRECTOR UN NOUVEAU DÉTECTEUR ADMINISTRATIF POUR LA SMC

At the June 5th meeting of the Canadian Mathematical Society Board of Directors in St. John's, the Board approved the appointment of Johan Rudnick as the new national Executive Director and Secretary of the CMS, effective July 15, 2009.

To facilitate the transition of responsibilities Graham Wright has kindly agreed to stay on and assist and advise Johan, as Executive Consultant, on a part-time basis until December 31.

Johan brings to the position a wide range of executive experience at the local, regional and national level across the federal government, including operations, organizational development, and corporate secretary support to boards and committees. As a volunteer, Johan is chair of a regional arts and community centre that also hosts Ottawa's Lumière Festival that attracts 10,000 visitors each year. Johan holds a B. Arch. from Carleton and an MBA from Queen's University. He is a recipient of a number of public service excellence awards, including a national Queen's Golden Jubilee medal.

As someone who is neither an academic nor a mathematician, Johan recognizes that he has a unique learning curve ahead to understand the complexities of the CMS and the warm welcome afforded him in St. John's was an excellent start. "As a core science that underlies all that we do, advancing mathematics advances the lives of all Canadians," he said. "Mathematics is a public interest that needs to be better understood and supported. Having worked on public interest issues for many years, advancing mathematics and the good works of the CMS is a cause that I am privileged to be involved with."

In the midst of the economic downturn, the CMS is facing pressing challenges to retain and grow our membership, strengthen our partnerships and sponsorship base, and address the emerging opportunities of the electronic publishing environment. Johan's appointment will help the Society address those challenges while maintaining a high level of support and services to our members.

Anthony To-Ming Lau
CMS President

Réuni le 5 juin à St. John's, le Conseil d'administration de la Société mathématique du Canada (SMC) a approuvé la nomination de Johan Rudnick à titre de directeur administratif et secrétaire de la SMC, à compter du 15 juillet 2009. Pour faciliter la transition et aider Johan, Graham Wright a bien voulu accepter de demeurer au service de la SMC en tant que conseiller de direction à temps partiel jusqu'au 31 décembre.

Johan fera profiter la SMC de sa longue expérience en administration sur la scène locale, régionale et nationale dans divers secteurs de l'administration fédérale, au niveau des opérations, du développement organisationnel et en tant que secrétaire de nombreux conseils et comités. À titre bénévole, Johan est président d'un centre culturel communautaire régional, organisateur notamment du Festival Lumière d'Ottawa qui attire 10 000 visiteurs annuellement. Johan est titulaire d'un baccalauréat en architecture de l'Université Carleton et d'une maîtrise en administration des affaires de l'Université Queen's. Il a reçu plusieurs prix d'excellence pour son travail en administration publique, dont une Médaille du jubilé de la reine.

N'étant ni universitaire ni mathématicien, Johan reconnaît qu'il a beaucoup à apprendre avant de bien saisir la complexité d'un organisme comme la SMC, mais l'accueil chaleureux reçu à St. John's est un excellent commencement. « Les mathématiques étant une science fondamentale à la base l'activité humaine, tout dans ce domaine représente aussi un progrès pour toute la population canadienne, affirme-t-il. Les mathématiques sont d'intérêt public et doivent être mieux comprises et soutenues. J'ai travaillé de nombreuses années à défendre des causes d'intérêt public. La promotion des mathématiques et du bon travail de la SMC est une cause à laquelle je me sens privilégié de travailler. »

En cette période de ralentissement économique, la SMC doit s'efforcer de retenir ses membres et d'élargir son effectif, de consolider ses partenariats et ses commandites, tout en profitant des nouvelles possibilités qui s'offrent en publication électronique. L'arrivée de Johan aidera la Société à franchir ces obstacles tout en maintenant un niveau élevé de soutien et de service aux membres.

Anthony To-Ming Lau
Président de la SMC

CALENDAR OF EVENTS / CALENDRIER DES ÉVÉNEMENTS

SEPTEMBER	2009	SEPTEMBRE	DECEMBER	2009	DÉCEMBRE
11-17	"Models in Developing Mathematics Education", The Mathematics Education into the 21st Century Project (Dresden, Saxony, Germany) alan@rogerson.pol.pl		5 - 7	CMS Winter Meeting 2009, Host: University of Windsor Hilton Hotel, Windsor (ON) www.cms.math.ca/Events/winter09/	
14-19	New trends in advanced signal processing in functional brain imaging (CRM, Montreal, QC) www.crm.umontreal.ca/Atoms09/index_e.php		17-21	14th Asian Technology Conference in Mathematics (Beijing, China) www.mathandtech.org	
OCTOBER	2009	OCTOBRE	JANUARY	2010	JANVIER
9 - 13	Rational Curves and A1 homotopy theory (American Inst. of Math, Palo Alto, CA) http://aimah.org/ARCC/workshops/a1homotopy.html		25-29	Metamaterials: applications, analysis and modeling (UCLA, Los Angeles, CA) www.ipam.ucla.edu/programs/meta2010/	
12-16	Algebra, Geometry, and Mathematical Physics 5th Baltic-Nordic Workshop (Bedlewo, Poland) www.agmf.astralgo.eu/bdl109/		FEBRUARY	2010	FÉVRIER
14-17	Integers Conference 2009 (Univ. of West Georgia, Carrollton, GA) www.westga.edu/~math/integersconf2009		18 - 19	February Fourier Talks 2010 (Univ. of Maryland, College Park, MD) www.norbertwiener.umd.edu/FFT/FFT10/index.html	
NOVEMBER	2009	NOVEMBRE	22-26	Statistical and Learning Theoretic Challenges in Data Privacy (UCLA, Los Angeles, CA) www.ipam.ucla.edu/programs/data2010/	
2-6	Combinatorics: topics in graphs and hypergraphs (UCLA, Los Angeles, CA) www.ipam.ucla.edu/programs/cmaws3/		MARCH	2010	MARS
23-27	Mathematics and Astronomy (CSIC, Madrid, Spain) www.astromath2009.com		8-12	AIM Workshop: Mock Modular Forms in Combinatorics and Arithmetic Geometry (AIM, Palo Alto, CA) www.aimath.org/ARCC/workshops/mockmodular.html	
29-Dec.4	7th Southern Hemisphere Conference on the Teaching and Learning of Undergraduate Mathematics and Statistics (Gordons Bay, South Africa) www.delta2009.co.za		JUNE	2010	JUIN
			4-6	2010 CMS Summer Meeting University of New Brunswick Fredericton, NB www.cms.math.ca/Events	
			JULY	2010	JUILLET
			26-Aug16	Topics in Noncommutative Geometry (Universidad Buenos Aires, Argentina) http://cms.dm.uba.ar/Members/gcorti/workgroup.GNC/3EIL	

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Bourse CRSNG/SMC Math à Moscou

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

www.mccme.ru/mathinmoscow/

Application details

www.cms.math.ca/Scholarships/Moscow

For additional information please see your department or call the CMS at 613-733-2662.

Deadline **September 30, 2009** to attend the Winter 2010 semester.

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/

Détails de soumission

www.smc.math.ca/Bourses/Moscou

Pour plus de renseignements veuillez communiquer avec votre département ou la SMC au 613-733-2662.

Date limite **le 30 septembre 2009** pour le trimestre d'hiver 2010.



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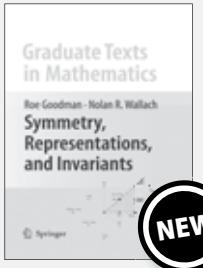
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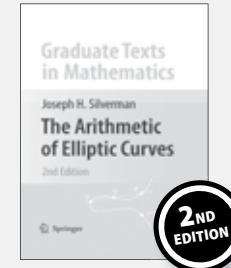
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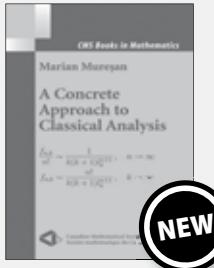
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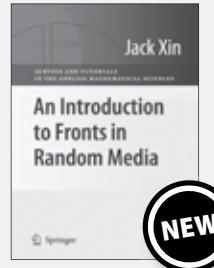
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