Submissions

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CAIMS 2010 Announcement
Past President’s Report
by Robert D. Russell, CAIMS•SCMAI President 2007-09

It has been a great pleasure to have served you as President of the Canadian Applied and Industrial Mathematics Society for the past two years. As a volunteer run organization, its smooth functioning heavily depends upon the dedication and skill of its Board members, and particularly its Executive, and I have been extremely fortunate to have had an outstanding group of individuals to work with. The previous President, Bill Langford, has been tireless through the years in serving our Society, as partly evidenced by his being this year’s selection for the DSA (Distinguished Service Award). Our diligent Treasurer Paul Muir and Secretary Abba Gumel have given selflessly their time and energy to see that things have run smoothly.

It is most appropriate that the celebration of the 30th Anniversary of CAIMS•SCMAI has been at the 2009 annual meeting at the University of Western Ontario, a university that has long supported applied mathematics and indeed has one of the largest groups of applied mathematicians in Canada. I am most grateful to the organizers of the meeting, especially Xingfu Zou and Geoff Wilds, for the enormous effort they expended to see that the meeting was a success. At this year’s banquet several of the past CAIMS•SCMAI Presidents spoke about the early years of our organization, and I have an article on this elsewhere in the Newsletter.

One of the major purposes of our society is to honour the leaders in applied and industrial mathematics in Canada through various awards. The success of these awards (and, indeed, of the applied mathematics education programs across Canada) is evidenced by the growing interest in our DDA (Doctoral Dissertation Award), which had 12 strong nominations this year. I am most grateful to Ray Spiteri (Chair), JF Williams, and Henry Wolkowicz, members of the DDA Committee, in their selecting two outstanding winners, Raluca Eftimie and Colin Macdonald. The choice of an exceptional winner of the CAIMS•SCMAI Research Prize, Mark Lewis, was made by the Committee of Michael Mackey (Chair), Gordon Swaters, Michel Fortin and John Peirce. Finally, I wish to thank the DSA Committee, Serpil Kocabiyik (Chair), Bryant Moodie, and Sue Ann Campbell, for their deliberations and selection of Bill Langford.

One of my goals when elected President of CAIMS•SCMAI was to introduce two new awards, one honouring a junior researcher and the other an industrial mathematician. I am very pleased that, due largely to the efforts of Ian Frigiaard, we will be collaborating with PIMS to offer an annual Junior Researcher Prize, starting in 2010. As well, collaborating with MITACS we will offer an annual Industrial Researcher Prize. Details of these awards also appear in this Newsletter. Please consider nominating suitable colleagues for these awards.

Our relations with the three Canadian Mathematics Institutes (PIMS, CRM and
Fields) and MITACS are extremely good, with these organizations providing support in many ways. Their support was critical when our 2008 annual meeting in Montréal was held in collaboration with the CMS and our corresponding French organizations. Recently, MITACS has taken over the investing of our surplus finances and is pursuing various ways in which they can provide key administrative support for CAIMS•SCMAI. These include the handling of membership reminders and renewals, streamlining of our election process, handling of the E-News/Newsletter preparation and mailout, helping with our annual meetings, improving the advertising and submission process for the CAIMS•SCMAI Awards, and helping with the design and maintenance of our webpage.

I am particularly pleased with the various ways in which CAIMS•SCMAI continues to increase its international profile. One key initiative has been the negotiation of reciprocal membership agreements with other mathematics organizations. Under Bill Langford’s Presidency, a reciprocity agreement was made with SIAM, and we have recently formed a similar agreement with the SMAI, our French counterpart. I encourage you to check our website for details of these.

CAIMS•SCMAI is involved in several collaborations on international meetings. The First Joint North American Meeting in Industrial Mathematics, organized by CAIMS•SCMAI, SIAM and the Mexican Mathematical Society, will be held in Mexico in December, 2010, and we hope there will be a large contingent of Canadians in attendance. As you know, the International Council for Industrial and Applied Mathematics, the world’s collection of applied mathematics organizations, will hold its next meeting in Vancouver in 2011. ICIAM11 will be an international collaboration between CAIMS•SCMAI with MITACS and SIAM, and it will be the finest opportunity by far for us to highlight the high level level of Canadian applied mathematics on the international stage. CAIMS•SCMAI members (with Ian Frigaard the Chair) are working in collaboration with PIMS and MITACS to organize a large number of thematic programmes for ICIAM11. Ken Jackson and other CAIMS•SCMAI members are hosting SCICADE11, an international conference on Scientific Computing And Differential Equations, in Toronto. This conference, held just prior to ICIAM11, is being well supported by the Fields Institute and MITACS.

My two years as President of CAIMS•SCMAI have been extremely rewarding, and I leave with a sense of optimism about the long term health of our Society. Still, as Past President of CAIMS•SCMAI, I intend to keep working on several personal goals for supporting our organization and Canadian applied mathematics in general. A major challenge is to find better ways of encouraging the younger Canadian applied mathematicians to take a more active role in CAIMS•SCMAI, including as members of its Board or its various committees. At a concrete level, Ian Frigaard and I have formed a Liaison Committee consisting of members throughout most Canadian universities who will work to en-
Reports from the Society

Sure that their colleagues are CAIMS•SCMAI members and their universities are Academic members. An important way that you can help is to suggest your colleagues for these positions, either to me personally or to Lucy Campbell, the new Membership Committee Chair. Finally, I ask you to join me in an effort to attract applied and computational mathematicians who are not currently members to CAIMS•SCMAI, including more individuals from Canada’s strong groups of discrete mathematicians, computational computer scientists, and mathematicians working in industry.

CAIMS•SCMAI membership comes with a number of concrete benefits, including receipt of our Newsletter containing information directed primarily towards Canadian faculty and students, reduced membership costs for SIAM and applied mathematics societies in other countries, and free electronic access to the Canadian Applied Mathematics Quarterly. But in my opinion, the strongest argument for soliciting our colleagues support is that there is no doubt that applied mathematics would not be nearly as strong as it is without CAIMS•SCMAI, the Canadian Society dedicated first and foremost to the promotion of applied mathematical research and education. For example, Canada would simply not be hosting the hallmark applied mathematics meeting, that of the International Congress for Industrial and Applied Mathematics in 2011, were it not for CAIMS members whose untiring efforts included an unsuccessful bid for ICIAM07 in 2005 and ultimately involved coordinating with MITACS and its marvellous administrative staff in our successful bid for ICIAM11 with SIAM. Our annual meetings like the ones at Banff and UWO cover a very wide spectrum of topics and demonstrate that applied mathematics is, to borrow a phrase from the UWO Dean of Science at the opening of this year’s meeting, a “gateway to interdisciplinarity.” This interdisciplinarity is reflected in the fact that our members are funded from many different NSERC GSCs, which of course brings many challenges to see that we are treated equitably in an environment where research specialization remains the norm. A vital role of CAIMS•SCMAI is to advocate for its members’ interests with NSERC, and our new President Jacques Bélair is uniquely placed to do so.

Finally, let me remind you that perhaps the best way you can support CAIMS•SCMAI is by organizing a minisymposium at our upcoming national and international meetings. So I hope to see you in St. John’s at next year’s annual meeting. What better place than Newfoundland to enjoy a uniquely Canadian environment with our many colleagues from home and abroad, eh?
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Minutes of the CAIMS • SCMAI Annual General Meeting
Saturday, June 13, 2009, 1-2 PM

The President, Professor Jacques Bélair took the chair and called the meeting to order at 1.05 PM. Approximately 25 members of the society were present. Jacques welcomed everyone to the Annual General Meeting.

1. Approval of Agenda:
   It was moved by Ian Frigaard and seconded by Rob Corless that the agenda be approved as written. Carried.

2. Approval of Minutes of AGM of June 3, 2008:
   It was moved by Lucy Campbell and seconded by Abba Gumel that the Minutes of the General Meeting of June 3, 2008 be approved. Carried.

3. Matters Arising out of Minutes:
   There were no matters arising out of the minutes.

4. Past President’s Report:
   Bob Russell presented his Past President report, as summarized below:
   
   • Thanks: Bob expressed his profound appreciation for having the chance to serve CAIMS • SCMAI as its President for the past two years. He was grateful to the outstanding group of individuals he worked with on the Board in general, and the Executive in particular.
   
   Bob noted that it was most fitting that the 30 year anniversary celebrations of CAIMS • SCMAI was being held at the University of Western Ontario, an institution that has long supported applied mathematics and has one of the largest applied mathematics groups in Canada. Bob congratulated the Organizers of CAIMS • SCMAI 2009 (Xingfu Zou, Geoff Wild and Robert Corless) for the enormous effort they have expended to ensure the success of the meeting.
   
   Bob expressed his appreciation to the DDA Committee (Ray Spiteri, JF Williams, and Henry Wolkowicz) for selecting two outstanding winners for the 2008 academic session, Raluca Eftimie and Colin Macdonald. He also thanked the Research Prize Committee (Michael Mackey, Gordon Swaters, Michel Fortin and John Peirce) for their choice of an exceptional winner of the CAIMS • SCMAI Research Prize, Mark Lewis. He further acknowledged the diligence of the DSA Committee (Serpil Kocabiyik, Bryant Moodie and Sue Ann Campbell) in their selection of Bill Langford.
   
   • New Prizes: Bob expressed his pleasure that the two new awards he introduced (one honouring a junior researcher, in conjunction with PIMS;
and the other an industrial mathematician, in conjunction with MITACS) will be awarded beginning at the 2010 AGM.

- **Relations with Math Institutes:** Bob noted that our relations with the three Canadian Mathematics Institutes (CRM, Fields and PIMS) and MITACS are extremely good, and that these organizations have been providing support in many ways. Recently, MITACS has taken over the investing of our surplus finances, and we are mutually exploring various ways in which MITACS can provide key administrative support for CAIMS•SCMAI. Possibilities include the handling membership reminders and renewals, streamlining of our election process, handling of the E-News/Newsletter preparation and mailout, helping with our annual meetings, improving the advertising and submission process for the CAIMS•SCMAI Awards, and helping with the design and maintenance of our webpage. Also, last year’s annual meeting was held in collaboration with the Institutes, as well as the corresponding French organizations and the CMS.

- **International Profile:** Bob was quite pleased that CAIMS•SCMAI continues to increase its international profile by way of fostering fruitful partnership and co-hosting joint meetings with many successful international organizations such as:
  
  - CAIMS-SIAM reciprocity agreement (brokered by Bill Langford)
  - Canada-France Congress, Montréal, 2008.
  - The First Joint North American Meeting in Industrial Mathematics, organized by CAIMS•SCMAI, SIAM and the Mexican Mathematical Society, scheduled December, 2010 in Mexico City.
  - ICIAM 2011, Vancouver

Bob stated that his two-year stewardship as President has been extremely rewarding; and he feels a great deal of optimism about the future of applied and industrial mathematics in Canada. He reiterated his continued support for CAIMS•SCMAI and Canadian applied mathematics in general. He itemized a number of challenges facing the organization such as:

- Finding better ways of encouraging the younger Canadian applied mathematicians to take a more active role in CAIMS•SCMAI, especially as members of its Board or its various committees (Bob suggests that all members of the Board should be proactive in suggesting nominees for these positions).

- Reach-out to applied and computational mathematicians who are not currently members of CAIMS•SCMAI, including the strong groups of
Canadian discrete mathematicians, computational computer scientists, and mathematicians working in industry.

5. **Treasurer’s Report:**

Paul Muir presented his report regarding the Financial Statement and Membership Statistics. The bank balance as of 30 April 2009 was $41,219.65. Our total assets were $113,437.62. Total revenues for 2008 were $14,421.52. Expenses for 2008 were $15,979.92.

Paul reported the total reimbursement from MITACS for the 2008 meeting was $4,000. Paul further presented a summary of his discussions with Jo-Anne Rockwood of MITACS on ways we can cooperate with MITACS, particularly to use MITACS infrastructure and resources to support our online registration and membership renewal.

The Financial Statement was examined by Andrew J. Miller Inc., Chartered Accountant.

6. **Secretary’s Report:**

Abba Gumel presented his report, as summarized below:

Abba outlined his main areas of responsibility as Secretary over the last year, including maintaining the web site, producing 8 electronic newsletters since last year’s meeting, and producing the printed Annual Newsletter (these newsletters are all on the CAIMS•SCMAI website).

Abba acknowledged the support CAIMS•SCMAI has been receiving from the Department of Applied Mathematics at the University of Waterloo in providing the platform for our website and membership database. Also, James Treacy at Waterloo has continued to do the typesetting for our Annual Newsletter.

Elections into the two vacant positions on the Board (to replace John Bowman and Victor LeBlanc) were conducted in May/June 2009. Three candidates: Sharene Bungay (Memorial), Xiao-Wen Chang (McGill) and Nicholas Kevlahan (McMaster) contested for the two positions. Sharene and Nicholas were elected. Furthermore, Jianhong Wu (York) and Abba Gumel (Manitoba) were elected President-elect and Secretary, respectively, by acclamation.

7. **New CAIMS•SCMAI Prizes:**

Bob Russell and Ian Frigaard reported on the two new CAIMS•SCMAI prizes:

- CAIMS-PIMS Prize for junior researchers
- CAIMS-MITACS Prize for excellence in industrial mathematics
Further details about the terms of reference of these awards are being worked out, in conjunction with PIMS and MITACS. The inaugural awards will be presented at the 2010 AGM.

8. **Future CAIMS•SCMAI Meetings:**

Bob Russell reported on the proposed First North American Meeting on Industrial and Applied Mathematics, Mexico City, 2010. Preliminary work for this joint meeting is underway. The Canadian representatives on the planning committee are Michael Mackey, Barbara Keyfitz, Uri Ascher and Bob Russell.

- CAIMS 2010: Memorial University of Newfoundland.

9. **NSERC Presentation:**

Jacques presented a brief overview of the NSERC discovery grants changes. There were some discussions on the changes being made.

10. **Other Business:** None.

The meeting was adjourned at 2 PM.

**Banquet:**

The banquet was held on Friday, June 12, 2009. A major highlight of the banquet was the 30th Anniversary Celebrations spear-headed by Bob Russell, as well as a video presentation of St. John’s, the host city for CAIMS 2010, by Sharene Bungay of Memorial University of Newfoundland. The following prizes were awarded at the banquet:

- **CAIMS•SCMAI Research Prize:** Presented to Mark Lewis (University of Alberta) by Jacques Bélair on behalf of the Research Prize Committee;

- **Cecil Graham Doctoral Dissertation Award:** Presented to Raluca Eftimie (University of Alberta) and Colin Macdonald (Simon Fraser University) by Raymond Spiteri (Chair, Doctoral Dissertation Award Committee);

- **Arthur Beaumont Distinguished Service Award:** Presented to Bill Langford (Guelph University) by Jacques Bélair. It is noteworthy that Bill received a rousing standing ovation, a fitting tribute to his great service and long-standing dedication to CAIMS•SCMAI and the advancement of mathematics in Canada.
Membership Committee Report

by Lucy Campbell

A number of new developments concerning CAIMS•SCMAI membership took place in 2009. A new Chair of the Membership Committee was appointed at the Board of Directors Annual Meeting in June 2009. Lucy Campbell (Carleton) took over from Ian Frigaard (UBC). We are grateful to Ian for his invaluable contributions over the past 2 years. In particular, during his tenure as chair, Ian was instrumental in putting together a Membership Liaison Committee, comprising representatives from all the member institutions, to assist with compiling and annually updating the database of graduate students, postdocs, visitors and new faculty for free associated membership.

In the past year regular CAIMS•SCMAI membership was supplemented by free electronic access to CAMQ, for which we thank the editorial board of CAMQ. The subscription rate for life membership was increased from $600 to $800 in 2009, and at the Board Meeting in June 2009 it was decided that the annual rate for regular membership will increase from $50 to $60 effective 2010. These modest increases are following a period of at least 10 years in which the rates have been maintained constant.

A new reciprocity agreement between CAIMS•SCMAI and the Société de mathématiques appliquées et industrielles (SMAI) of France took effect during the past year. Under this agreement, any regular CAIMS•SCMAI member based outside of France may have a 30% discount on SMAI membership fees and SMAI members based outside Canada also may have a 30% discount on CAIMS•SCMAI membership fees. In addition, we continue to enjoy the benefits of reciprocity agreements with SIAM and GAMM. Please see www.caims.ca/Society/members.html for the details of all three agreements.

We are currently working with MITACS to set up an online facility that would allow membership renewals and new membership applications to be done online through a secure server. We anticipate that it will be available this fall via the CAIMS•SCMAI webpage just in time for the 2010 renewals and applications. We are grateful to MITACS for providing us with this facility and helping us to set it up. Thanks also to the treasurer Paul Muir who has put a lot of work into this in the past few months.

As always, the membership committee is open to inquiries, new suggestions and ideas on how to improve CAIMS•SCMAI offerings to its members. The committee can be contacted by sending e-mail to Lucy Campbell, <campbell@math.carleton.ca>. 
2010 CAIMS·SCMAI Annual Meeting
with the participation of
the Canadian Symposium on Fluid Dynamics (CSFD-2010)
July 17-20, 2010
Department of Mathematics and Statistics
Memorial University of Newfoundland
St. John’s, Newfoundland and Labrador
CANADA

The 2010 Annual Meeting of the Canadian Applied Mathematical and Industrial Society will be hosted by the Department of Mathematics and Statistics at Memorial University, in St. John’s, Newfoundland, Canada on July 17-20, 2010.

We are calling for minisymposia on any topics in applied mathematics with a deadline being May 1, 2010. If you wish to organize a Minisymposium, please send the name of the organizer(s) and participants, their affiliation, e-mail contact information and titles of the talks to one of the co-chairwomen of the CAIMS·SCMAI 2010 Scientific Program at the address given below.

There will also be several contributed sessions, as well as a poster session for graduate students to present their research results.

At the meeting, the annual CAIMS·SCMAI Research Prizes and caims Doctoral Dissertation Award will be presented to the recipients. In addition, student poster prizes will also be selected and awarded.

For more information about the themes of the meeting and list of plenary speakers see the enclosed poster. The meeting website, www.caims2010.ca has additional information and is updated in a timely fashion. You can contact one of the co-chairwomen of the CAIMS·SCMAI 2010 Scientific Program at:

Serpil Kocabiyik <serpil@mun.ca>
Sharene Bungay <sharene@mun.ca>

We hope that you are able to participate and will make the CAIMS·SCMAI 2010 meeting a successful one.

We look forward to seeing you and welcoming you at Memorial University of Newfoundland.
Report on ICIAM 2011

by Ken Jackson

Plans for ICIAM 2011 are progressing well.
As I reported last year, the Steering Committee for ICIAM 2011 consists of:

- Arvind Gupta, Chair: Scientific Director, MITACS & Professor, Computing Science, Simon Fraser University
- Ivar Ekeland, SPC Co-chair: Former Director, PIMS & Professor, Mathematics, University of British Columbia
- Jerrold Marsden, SPC Co-chair: Professor, Control and Dynamical Systems, California Institute of Technology
- Jim Crowley, Vice-chair: Executive Director, SIAM
- Ken Jackson Vice-chair: Past-president, CAIMS & Professor, Computer Science, University of Toronto
- Martin Golubitsky: Past-president SIAM & Director, Mathematical Biosciences Institute, Ohio State University
- Barbara Keyfitz: Former Director, Fields Institute for Research in Mathematical Sciences
- Rachel Kuske: Professor, Mathematics, University of British Columbia
- Christianne Rousseau: Interim Director, Centre de recherches mathématiques & Professor, Département de mathématiques et de statistique, Université de Montréal
- Bill Langford: Past-president, CAIMS & Professor, Mathematics and Statistics, University of Guelph
- Randall LeVeque: Professor, Applied Mathematics, University of Washington
- Bob Russell: Past-president, CAIMS & Professor, Mathematics, Simon Fraser University
- John Stockie: Former Associate Scientific Director, MITACS & Associate Professor, Mathematics, Simon Fraser University

Another key committee that has now been struck is the the Scientific Program Committee (SPC), which consists of

- Emmanuel Candès, California Institute of Technology; Signal and Image Processing, Stochastics, Optimization
- Ivar Ekeland (SPC Co-Chair), PIMS; Economics, Finance
- Maria Esteban, CEREMADE; Nonlinear Analysis, Quantum Chemistry, Fluid-Structure Interaction
- Andrei V. Fursikov, Moscow State University; PDE, Navier-Stokes, Control
- Narinder K. Gupta, Indian Institute of Technology Delhi; Large deformations of metals and composites
The SPC has selected a set of themes for the conference and a preliminary slate of invited speakers. The proposed invited speakers were recently approved by the ICIAM Council. I expect that their names will be made public soon.

The organization for ICIAM 2011 is progressing on schedule as outlined in our bid document. We are all looking forward to a very exciting meeting in Vancouver in 2011.

For further information about the meeting, please see the webpage, <http://www.iciam2011.com/>.
Report on CAIMS·SCMAI 2009
by Rob Corless and Xingfu Zou

The 30th Anniversary Annual Meeting of the CAIMS·SCMAI took place at the University of Western Ontario in London, Ontario, from June 10 to 14, 2009. The organizers, Xingfu Zou, Geoff Wild and the ‘entire’ Department of Applied Mathematics at UWO, welcomed nearly two hundred participants, from over a dozen countries, to a programme containing a wide variety of excellent talks in each of six themes: Dynamical Systems (organized by Yuan Yuan and Pei Yu), Scientific/Symbolic Computation (Rob Corless), Mathematical Biology (Chris Bauch and Geoff Wild), Complex Fluids (Colin Dennis-ton), Theoretical Physics (Gerry McKeon), and Mathematical Finance (Tony Ware and Adam Metzler). In addition, the program contained well-attended minisymposia on Functional Differential Equations (Yuming Chen and Qinwen Hu), Nonlinear Analysis and Differential Equations (K. Q. Lan), Mathematical Neuroscience (Sue-Ann Campbell), Numerical Solutions of PDEs (Ray Spiteri and Paul Muir), Modern Thermodynamics (Chris Essex), New Directions in Mathematical Modelling of Hydrogen Fuel Cells (Brian Wetton) and a special PhD Student Minisymposium on Mathematical Finance organized by Adam Metzler.

The plenary speakers were Marty Golubitsky (OSU and Houston), Nick Trefethen (Oxford), Alun Lloyd (NC State), Cliff Burgess (Perimeter Institute), and Peter Forsyth (Waterloo). Cliff Burgess unfortunately had a car accident on the way to the conference, and although attendees were grateful to learn that he had not been seriously hurt, they were disappointed not to be able to hear him give his much-anticipated talk “What is the Universe Made Of? The Case for Dark Matter and Dark Energy.” Well, perhaps next time! On the positive side, Peter Forsyth opened the conference with a very timely talk “See No Evil, Hear No Evil: Banks, Universities and Risky Investments”, that generated enthusiastic attention. The Cecil Graham Doctoral Dissertation Award winners, Raluca Eftimie and Colin Macdonald, gave wonderful presentations on “Modeling group formation and...
All together there were 140 talks scheduled; the main regret of the organizers was that since talks had to be scheduled in parallel, there was no way to attend all of them. Many people also took the opportunity to get together to write new papers, squeezing moments out between talks attended; others, such as John Butcher (Auckland) took the opportunity to visit Western for longer periods than just the conference. Special issues of the CAMQ are, we understand, being put together to archive papers based on work related to that presented at the conference. The Anniversary Meeting attracted several people who had been involved in the creation of CAIMS•SCMAI, including several Past Presidents: Fred Wan (UC Irvine) and Remi Vaillancourt (U. Ottawa) were among those to reminisce at the banquet dinner June 12. Henning Rasmussen, sadly, missed what was to be his last chance to attend a CAIMS•SCMAI meeting, being away in China at the time; his unfortunate passing in August leaves the Society poorer, and his energy and drive will be missed by many of us. The history of the Society is at present borne only in the memories of those of us who remain, and in whatever scattered notes lay in various filing cabinets; perhaps it is time for the compilation of a comprehensive History of the Society. Perhaps in a bid to kick such a project off, our new President, Jacques Bélair, is pictured here with the original call for the creation of the Society, which was displayed at the Anniversary Dinner.
The organizers wish to thank their colleagues, postdocs and students for their volunteer efforts at the conference. We thank MITACS and the Three Mathematics Institutes (Fields, CRM, and PiMS), and The Faculty of Science and The Department of Applied Mathematics of The University of Western Ontario (in particular, Vice-President (Research) Ted Hewitt), for their financial and administrative support. Finally, we thank the CAIMS • SCMAI Executive for their help and guidance.

2009 CAIMS • SCMAI Research Prize
by Michael Mackey

The CAIMS • SCMAI Research Prize is awarded to Professor Mark Lewis, University of Alberta, for his original applications of mathematics to the study of ecological invasions and his fundamental research in mathematical biology.

2009 CAIMS • SCMAI Arthur Beaumont Distinguished Service Award
by Ken Jackson

Professor William F. Langford, University of Guelph in recognition of his lifelong devotion to the well-being of Applied Mathematics in Canada, his mentorship of young researchers and his outstanding service to the Canadian Applied and Industrial Mathematics Society.

2008 CAIMS • SCMAI Cecil Graham Doctoral Dissertation Award
by Raymond Spiteri

This year the Cecil Graham Doctoral Dissertation Award Committee had the distinct privilege of selecting the best doctoral thesis in Applied Mathematics written at a Canadian University from among 12 entries. Needless to say, this presented the committee with a monumental task — the number of entries was more than double the numbers of recent years.

The members of the Cecil Graham Doctoral Dissertation Committee for 2008 were Henry Wolkowicz, JF Williams, and Ray Spiteri. I wish to express my sincere thanks to the many others (who shall remain anonymous but know who they are) who helped in the selection process by sharing their expert views on individual theses.

This committee selected Dr. Raluca Eftimie from the University of Alberta and Dr. Colin Macdonald from Simon Fraser University as the co-winners of the 2008 Cecil Graham Doctoral Dissertation Award.

Raluca’s doctoral research was co-supervised by Mark Lewis and Gerda de Vries, and her thesis was entitled “Modeling group formation and activity patterns in selforganizing communities of organisms”. Raluca’s thesis considered a
nonlocal hyperbolic system modeling pattern formation associated with animal group interactions. Her work showed that all the patterns obtained with existing parabolic and hyperbolic models could be explained by a single model in different parameter regimes to represent different communication mechanisms.

Colin’s doctoral research was supervised by Steven Ruuth, and his thesis was entitled, “The closest point method for time-dependent processes on surfaces”. Colin’s thesis considered the numerical solution of time-dependent partial differential equations on general surfaces using a recent technique called the closest point method. The method is applied to interface motion on surfaces using the level set equations posed on surfaces. Applications presented included blurring on triangulated surfaces, heat diffusion on surfaces connected by thin filaments, and Turing pattern formation.

Reflecting upon this year’s process as chair of this committee, I can safely say that the quality and the breadth of subject areas of the theses nominated were truly remarkable. The task of selecting the winners from such a distinguished group of theses was arduous. I wish to extend congratulations and honourable mention to all those whose theses were nominated.

I invite the CAIMS•SCMAI community to continue to show your support for this award by nominating the best theses from your department in 2009. Please do your part to make this committee’s life difficult; see http://www.caims.ca/Awards/DDaward.html for details.

CAIMS/PIMS Early Career Award in Applied Mathematics

The CAIMS/PIMS Early Career Award in Applied Mathematics is to be awarded to a researcher less than ten years past the date of Ph.D. at the time of nomination and recognizes exceptional research in any branch of applied mathematics, interpreted broadly. The nominee’s research should have been conducted primarily in Canada or in affiliation with a Canadian university.

Nominations

Nominations must be submitted by January 31 to CAIMS/PIMS by a sponsor who is responsible for providing the following information:

- a curriculum vitae
- a publication list
- a cover letter explaining the basis of the nomination
- a maximum of three additional letters of support

Unsuccessful nominations which continue to meet the eligibility criteria will be automatically considered for a second year.

Advisory Committee

The recipient of the prize will be decided by an advisory committee consisting of four experts, who will serve for two-year terms. Two of them will be appointed
by the President of CAIMS and two will be selected by the PIMS Director. Decisions will be announced by **April 1**.

**The Award**

The award will consist of a cash prize of $1,000 and a commemorative plaque that will be presented at the CAIMS Annual Meeting. The recipient will be invited to deliver a plenary lecture at the CAIMS Annual Meeting in the year of the award. A travel allowance will be provided.

Submit nominations to: nominations@pims.math.ca

Only electronic submissions will be accepted. Tel.: (604) 822-3922

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**CAIMS-MITACS Industrial Mathematical Prize**

The CAIMS-MITACS annual industrial mathematics prize is to be awarded to a researcher in recognition of exceptional research in any branch of industrial mathematics, interpreted broadly. The nominee’s research should have been conducted primarily in Canada. This Prize would not only be a high honour to bestow upon an individual, but also an acknowledgement of industrial mathematics as a fundamental and vibrant discipline within the research culture of Canada.

Nomination: Nominations must be submitted by **January 31** to CAIMS/MITACS by a sponsor who is responsible for providing the following information:

- a curriculum vitae
- a publication list
- a cover letter explaining the basis of the nomination
- a maximum of three additional letters of support

Unsuccessful nominations which continue to meet the eligibility criteria will be automatically considered for a second year.

Prize Selection Committee: The recipient of the prize will be decided by a prize selection committee consisting of four experts, who will serve for two-year terms. Two of them will be appointed by the President of CAIMS•SCMAI and two will be selected by the MITACS Scientific Director. Decisions will be announced by April 1.

The Award: The award will consist of a cash prize of $1,000 and a commemorative plaque that will be presented at the CAIMS•SCMAI Annual Meeting. The recipient will be invited to deliver a lecture at the CAIMS•SCMAI Annual Meeting in the year of the award. A travel allowance will be provided.

Nominations should be mailed to:
The CAIMS-MITACS Industrial Prize Committee
c/o Prof. Nilima Nigam
Dept. of Mathematics
Simon Fraser University
8888 University Drive
Burnaby, BC V5A 1S6

Nominations can also be emailed to Dr. Nilima Nigam at nigam@math.sfu.ca or to Dr. Jianhong Wu at wujh@mathstat.yorku.ca.

CAIMS • SCMAI 2010 Election: Call for Nominations

CAIMS • SCMAI will be holding an election next winter (March 2010) for:

- Treasurer
- Two Members at Large on the Board of Directors

to fill the positions to be vacated respectively by Paul Muir, Dhavide Aruliah and Ian Frigaard.

All members of CAIMS • SCMAI are invited to suggest names of candidates for these offices. Nominations should reach the Chair of the Nominations Committee, Jianhong Wu <wujh@mathstat.yorku.ca> by January 15, 2010.
CAIMS • SCMAI 30th Anniversary Celebration

by Bob Russell

At the banquet for this year’s annual meeting at the University of Western Ontario, I helped to organize an event celebrating the 30th Anniversary of our Society. The format was very simple: our Past Presidents were contacted and given the opportunity to speak in person or to send a statement to be read. Their statements, some slightly edited, are given below, followed by a brief footnote.

1980-1982: Colin Clark (University of British Columbia)
Colin was first President of what was then the Canadian Applied Mathematical Society (CAMS). He was disappointed at not being able to attend the meeting and sent heartiest congratulations to all CAIMS • SCMAI members on the 30th birthday of the Society. He mentioned how CAIMS • SCMAI success over 3 decades has fully justified the optimism with which CAMS was founded in 1979. Some comments:

Fred Wan, one of the founders, used to talk about the Impact Criterion, which stated that research in Applied Mathematics could be judged on how strongly it impacted the area of application. One test was whether the research was published in leading journals in the application field, versus publication in specialized Applied Math journals. The injection of the letter ‘I’ (Industrial) into our Society’s name some years ago clearly recognized the importance of the Impact Criterion. If any one thing characterizes high quality Impact research, it is surely the degree of collaboration between the mathematician and the user. To make progress, both people need to exert an effort to understand the other’s point of view. We have our jargon and they have theirs. I still recall my blunder of using the word ‘morphology’ during some discussion of curriculum matters in my department. The response was gales of laughter. I never figured out why this was risible, but it still rankles. So here’s to mutual understanding and collaboration. As Norbert Wiener told us many years ago, some of the biggest research opportunities in Science can be found in the cracks between the disciplines.

Footnote: Colin has retired from UBC but remains active and is currently writing another book. His final quote from Wiener reminded me of a similar one by Canada’s own Leonard Cohen: “There’s a crack, a crack in everything. That’s how the light gets in” ... an interesting metaphor for us applied mathematicians, who consider ourselves as helping to shed some light on problems in other disciplines.

1983-1984: Fred Wan (University of British Columbia)
The highlight of the celebration was perhaps Fred Wan’s presentation, about which he wrote an article which appears in this Newsletter.
Footnote: Fred left UBC for the University of Washington, where he was a Dean, and he later worked with NSF. He is currently at the University of California at Irvine, where he has been Vice Chancellor for Research and Dean of Graduate Studies. He still maintains an active research program and participated in one of the minisymposia at the annual meeting.

1985-1986: Bryant Moodie (University of Alberta)
Bryant, who could not attend the meeting due to a speaking engagement in England, expressed his regrets about missing the celebration.
Footnote: He is still at the University of Alberta, where he maintains a productive research program. As well, he continues to be very active in CAIMS•SCMAI and is a member of various CAIMS•SCMAI committees.

1987-1988: Wayne Enright (University of Toronto)
Wayne was unable to attend the meeting due to personal commitments, and here are some highlights of his Statement:

I will try to summarise some of my thoughts and memories related to my term as president as well as my involvement as a CAMS executive member in that period. I was not involved in the meetings that led to the formation of CAMS, partly because I was on sabbatical in England and did not attend the SIAM meeting in Toronto in 1979. Tom Hull certainly played an active role in the founding of CAMS and I recall that he was designated on the initial executive as the first “past president” in honour of his key role in the founding of the society. I became actively involved in CAMS in the mid 80s and was president from 1987–1989. I remember that when my term was over I packaged all the official CAMS files (which were mainly paper files) including all minutes and correspondence, and sent this package to Rod Wong. Unfortunately Canada Post lost the package and the only thing that Rod received was an empty damage envelope. As this was likely the only record of our early years, some of our history has been lost and I am partly to blame for this. I don’t have any electronic record of my CAMS involvement in these early years, so I will mention only a few things that I do remember (although the dates may not be correct). One of the principle tasks of the executive in those years was to secure a location and host for the next meeting, and to recruit new members and new volunteers for executive positions. My recollection is that membership at that time was less than 200 and this included about 50 new memberships each year that resulted when non-members participated in our annual meeting and became members after registering at the meeting. I also certainly remember the energy and enthusiasm of Fred Wan and Bryant Moodie who preceded me as president and who were able to guide
the evolution of our organization at his time. I do recall that there were at least three issues that occupied a disproportionate amount of time of discussions (both at the executive meetings and at our annual general meeting). They were:

1. Relationship with NSERC and responses to their policy and program changes. At our annual meeting we usually had a senior member of NSERC attend and explain how their various program were changing. We would provide feedback to them and identify potential difficulties their changes would have on the applied mathematics (and mathematics in general) communities. I also recall that there were delegations to Ottawa for high level meetings of executives of CAMS, CMS and SCS with the senior executive of NSERC to express our concerns with the budget cutbacks and program cancellations that were to take place. It is surprising how little has changed over the years and how the need for such meetings still persists.

2. CICIAM and ICIAM involvement. Participation in the planning and selection of sites for future ICIAM meetings, the nominating of Canadian members to the scientific Committees, and the proposing of Canadian organizers for ICIAM minisymposium required a lot of consultation and politics. I served on both the CICIAM and scientific committee of ICIAM and found it to be a very challenging task.

3. Participation in the meetings of the Natural Science Societies of Canada (NSSC) in coordinating a response to initiatives in the Engineering community to change the Engineering Acts in each province to limit the right to practice or consult of non-engineers. I resigned from this NSSC after we obtained some success in negotiating an exemption for the natural sciences from the strict regulations that were being considered in some jurisdictions. I am not sure whether this group is still active, but I am sure that the Professional Engineers are still trying to restrict the ’right to practice’ of many members of our society.

Footnote: Wayne is still at the University of Toronto’s Computer Science Department, where he maintains an active research program. Items (1.) and (2.) above are still very much central issues for the CAIMS•SCMAI Executive and membership as a whole.

1989-1990: Roderick Wong (University of Manitoba)
Roderick was unable to attend the meeting but sent a nice note expressing his regrets and some reminiscences (with apologies if his memory is faulty in places):
One thing I do remember is that CAMS had run some very nice meetings. If I remember correctly, one was held in Toronto, organized by Fred. They invited Alan Newell and Nick Trefethen. They both gave good talks. Another one was in Halifax, where I met Lighthill, Dave Benney and Trevor Stuart. I myself ran a CAMS meeting in Winnipeg, and invited Fritz Ursell and DS Jones. These are all big names in applied mathematics. ... Sorry I can’t join you guys, but wish you a very happy anniversary celebration.

Footnote: Some time ago Roderick left the University of Manitoba and moved to the City University of Hong Kong, where he currently holds the position of VP Research.

1991-1992: John Chadam (McMaster University) John attended our annual meeting but did not speak at the celebration. 
Footnote: While teaching at McMaster, he served as Fields Scientific Director, later going to the University of Pittsburgh as Department Chair. He remains very active in research.

1993-1994: Remi Vaillancourt (University of Ottawa) Remi attended the meeting and graciously provided the following message:

As a former president of CAIMS, I am very pleased to celebrate the 30th anniversary of CAIMS•SCMAI at Western Ontario University upon Bob Russell’s invitation. During those 30 years, I have been more of an observer than an actor in CAIMS. Before CAIMS came to existence, I was president of the Canadian Mathematical Society (CMS) and my first priority was to strike an Applied Mathematics committee which seemed to me to be lacking in the Canadian mathematical community. I did approach several applied mathematicians at UBC, but received no replies. Then, shortly afterwards, Willy Moser told me at an executive meeting of CMS: “Don’t you know that there has been recently a meeting of applied mathematicians in Toronto with the aim of creating a Canadian applied mathematical society.” I was then very happy to learn that the pros would push their own wheelbarrow and I joined CAIMS at the earliest date. When applied mathematicians at the University of Alberta and CAIMS launched the Canadian Applied Mathematics Quarterly, I was pleased to have the first paper in this journal to which I contributed regularly. One day, I received a surprise telephone call from Ron Bercov at Edmonton, then chair of CAIMS nominating committee, asking me if I would accept to run for president of CAIMS. I was quite nervous about the proposition since I had not been closely involved with CAIMS and the request came at a time when there was some pressure on me from the dean to stay away from outside admin-
Administrative duties. I can say that my term of office had a low profile, but things went smoothly thanks to the steady steering of Cecil Graham. Fortunately my second successor, Dr. Anna Lawniczak, realized most of my ambitions for CAIMS, in particular, the incorporation of CAIMS. During the eight years I presided over the Canadian National Committee for IMU, I tried to promote CAIMS at NRC. During my term as CAIMS president, I once begged Peter Lancaster to come to Ottawa to help me defend the interest of applied mathematics at NSERC at a time granting policies and committees were being redefined. Another mere observational situation occurred when Wayne Enright asked me to sit on the organization committee of the Ottawa meeting of CAIMS. But unfortunately at the time of the meeting I was in the Soviet Union on a scientific visit and, in those days, invitees had little freedom for determining dates of their visits. On the other hand, I enjoyed very much CAIMS meetings which I attended as often as I could. May I conclude that, over the past 30 years, I was impressed to see the progress made by CAIMS.

Footnote: Remi is also still active in research as an Adjunct Professor at the University of Ottawa.

1995-1996: Henning Rasmussen (University of Western Ontario) Henning was travelling and unable to attend the meeting.

Footnote: Henning was a Professor Emeritus at UWO until his recent death. There is a separate article about Professor Rasmussen in this Newsletter, paying tribute to a remarkable individual.

1997-2001: Anna Lawniczak (University of Guelph) Anna was in Europe and unable to attend the meeting, but she did send the following short message:

Unfortunately, due to my prior commitments I am not able to attend in person this anniversary CAIMS meeting. I congratulate CAIMS 30th Anniversary and wish many more successful anniversaries. As far as I recall I was the only woman to be president of the Society. I hope that by the 60th CAIMS anniversary I will not be still the only one. With best wishes to everybody, Anna

Footnote: Anna is still at the University of Guelph, and we are most fortunate that she is able to maintain an active interest in CAIMS•SCMAI affairs.

2001-2003: Sam Shen (University of Alberta)
Sam was unable to attend the meeting but enthusiastically replied to my request for input for the celebration.

The first time I attended the CAIMS meeting was in 1988 before I moved to Canada. I had been attending every CAIMS annual meeting since then until when I moved to San Diego in 2006. I enjoyed the
high quality research discussed at the meetings, and enjoyed meeting the CAIMS members, who are like a family. CAIMS has become an important organization in the world mathematics community. Its growth is the direct results of the selfless service provided by its members. When I was the President, Secretary Sue Ann Campbell completed a project of developing a new CAIMS website and a web-based member statistics tool. Treasurer Mike Foreman completed a project of collecting membership fees by using credit cards. Michel Delfour made a strong voice at the ICIAM’s Scientific Program Committee and successfully placed Canadian speakers at the ICIAM congress. Arvind Gupta impressed the ICIAM member societies with the Canadian industrial mathematics. I would like to thank all the colleagues working for CAIMS. Together we will make CAIMS even better. I am getting settled down now in San Diego and will return to the CAIMS future meetings. CAIMS, I love you! Happy 30-year anniversary!

Footnote: As Sam mentioned, he moved to San Diego State University, where he has been Departmental Chair.

2003-2005: Ken Jackson (University of Toronto)
Ken was at the celebration and gave a spirited account of his time as CAIMS–SCMAI President, referring to that time as a certain “Coming of Age of CAIMS”. His summary of his presentation is below.

I started by mentioning that before I was on the Board of CAIMS, I helped to organize the 1998 SIAM Meeting in Toronto. CAIMS was not included at the start, but Anna Lawniczak, who was the CAIMS president at the time, came to visit me one day and suggested that CAIMS should play a role in the meeting. At that point, it was much too late to make this a joint meeting, but CAIMS members submitted many minisymposia to the conference and had a significant presence there. I believe the meeting was very successful from both CAIMS’ and SIAM’s point-of-view. Moreover, I think this was one major step on our way to developing a very strong relationship with SIAM. In particular, I believe it led to the very successful joint CAIMS-SIAM Meeting in Montréal in 2003. At the same time, we were developing stronger relationships with Math Societies in Canada. The Math 2000 Meeting at McMaster was a big step in this direction. We went on to have another joint meeting with CMS and other Canadian Math Societies in Halifax in 2004 and were a partner in the very successful Canada-France Meeting in Montréal in 2008. In addition to these meetings, CAIMS now plays a very active role, in collaboration with the other Canadian Math societies, in discussions with NSERC and other government agencies on policies related
to mathematics in Canada. I think the biggest step that CAIMS took during this period was to submit a joint-bid with SIAM for the 2007 ICIAM Meeting in Toronto. Although this was not successful, it helped to develop further our relationship with SIAM, ICIAM and other international Applied Math societies. I believe this lead to our successful joint bid with MITACS and SIAM for the 2011 ICIAM Meeting in Vancouver. I think this Meeting will really put CAIMS front and center in with world Applied Math community and will mark a significant milestone in the development of CAIMS.

Footnote: Ken remains in the Computer Science Department at the University of Toronto, and it would be an understatement to say that he is still active in CAIMS·SCMAI.

2005-2007: William Langford (University of Guelph)
Bill was, as always, a strong presence at the meeting, and sent the following summary of his spoken words:

Exactly 30 years ago tomorrow, on June 13, 1979, I attended the meeting that led to the creation of what we now know as CAIMS·SCMAI. At that time there was no Canadian society for applied mathematics, but many Canadian applied mathematicians were members of SIAM. When SIAM organized a meeting in Toronto that June, naturally many Canadians were in attendance. Some of them met informally at that SIAM meeting to discuss the formation of an independent “Canadian SIAM”. I must confess that initially I was not in favour of this idea. I felt that, because Canada is a country with a small population and in particular a small mathematics community, we could more effectively serve the interests of all mathematical scientists in Canada by working within the existing Canadian Mathematical Society (CMS) to broaden its interests. Others felt that CMS was too narrowly focused on “pure” mathematics to be able to make this change. Obviously, the Canadian Applied Mathematics Society (CAMS, now CAIMS) was formed in spite of my objections. About 10 years later I joined CAMS and I have remained an active member of both CAMS and CMS. I now feel that both societies make valuable contributions to mathematical sciences in Canada. Initially, the relations between CAMS and CMS were rather cool, for obvious reasons. In my opinion, a breakthrough came in the year 2000, which had been designated by UNESCO as “World Mathematical Year” (WMY). It was proposed that the professional societies in the mathematical sciences come together for a joint Canadian celebration of the WMY. This proposal was supported enthusiastically by Anna Lawniczak, President of CAIMS at that time, and by Richard Kane, President of CMS. A joint
steering committee was formed to iron out the many issues that arose in planning such a joint meeting. In spite of these difficulties, the meeting was a huge success and it paved the way for strong CAIMS-CMS cooperation on other national and international issues in the mathematical sciences, such as NSERC funding and CMS support for the bid to host ICIAM 2011 in Vancouver.

Footnote: Bill is Professor Emeritus at the University of Guelph, where he remains active in research as well as keeping a lively hand in CAIMS•SCMAI affairs.

2007-2009: Bob Russell (Simon Fraser University)
Organizing the 30th Anniversary event for CAIMS•SCMAI at the banquet at UWO was a very satisfying experience in several respects, primarily because of the opportunity it provided to chat with previous presidents of CAIMS•SCMAI and stir memories of the past events. As a young fairly new mathematician at SFU, I recall my excitement upon seeing the announcement of the meeting which led to the formation of CAMS, the precursor to CAIMS•SCMAI, while attending the 1979 SIAM meeting in Toronto. This announcement, kindly provided by Bill Langford, was on a small yellow sheet of paper, a copy of which is shown on page 18. Bill and I enjoyed discussing our contrasting reactions to this announcement and how he only came to approve of and support CAIMS•SCMAI when it became apparent that the organization was here to stay. For me, the early Canadian Applied Mathematical Society did not disappoint: As a relative newcomer to Canada, I loved the small meetings and sense of camaraderie shared with colleagues from all across the country. One of my favourite early memories is of an event at an annual meeting at the University of Waterloo. At the banquet, which took place in a local pub, Alan Newell destroyed the unprepared Scots at my table (including Pat Keast and Graeme Fairweather) with his quick wit and Irish humour. The meeting had all the hallmarks of the early Dundee meetings, for those who were fortunate enough to attend those gatherings as well. Due to the smallness of our Society, I had the opportunity to be on its Board early on, although I don’t have a record of the precise of time that was. (Indeed, I foolishly threw out a virtually complete set of Newsletters only a year ago and have been unsuccessful in finding another set—help in finding one would be greatly appreciated!) CAIMS•SCMAI is a larger Society now, and experiencing the pros and cons which come with growth but no paid administrative staff. In my experience, people are by and large pleased with the balance that CAIMS•SCMAI has found between partnering with the much larger SIAM on the international scene and working to enhance the image of applied mathematics within Canada itself. I remain optimistic that we will continue to bring young Canadian applied mathematicians together and provide them with a uniquely stimulating, open, and enjoyable environment in which to promote their research and educational programs.
Society Updates

Reflecting on Issues Faced by CAIMS • SCMAI during its Early Years

by Frederic Y.M. Wan

Introduction: I was delighted to have the opportunity to participate in the very special occasion of the 30th anniversary celebration of the CAIMS • SCMAI in mid June this year. It was a special honor to be asked to reflect on the good old days of the Society. In my attempt to reflect, I did not repeat much of the history of the Society that could be found and read on the CAIMS • SCMAI website. Instead, the focus was on a number of issues the Society faced at its inception which remain of interest today. For this printed version of my reflections, I have stripped away all the anecdotes and light hearted comments from my postprandial at the June meeting and focused on the actual issues instead.

1. Statistics: Adequate membership is an issue for most organizations and the (then) CAMS/SCMA was no exception. It seems from my Southern California distant perspective that things are better now. But during the first few years of the Society’s existence, it was difficult to increase our membership much beyond a hundred. So we spent quite a bit of time trying to find new ways to increase the CAMS/SCMA membership.

At the time, I was heading an Institute of Applied Mathematics and Statistics (IAMS) at UBC through which applied mathematicians and statisticians worked closely together. Our joint activities included a weekly IAMS seminar series and a joint Ph.D. degree program in applied mathematics and statistics. It seemed natural to ask the statisticians in Canada to be a part of the new CAMS/SCMA and thereby increase substantially its membership. Intellectually, there has always been a great deal of cross-fertilization between the two disciplines. There were also some movements toward consolidating the two fields. One example was the appointment of Herman Chernoff, a statistician of international stature, as Professor of Applied Mathematics to start a statistics section within the Applied Mathematics Division at MIT around that time. We at UBC in turn recruited a Canadian student of Chernoff as an Assistant Professor of Mathematics.

But the responses from my UBC statistics colleagues were politely but firmly negatives. As I learned gradually over the years, statisticians preferred to have their own identity by having its own professional society (the American Statistical Society, the Institute of Mathematical Statistics, etc.). Many would argue that statistics is not even a branch of mathematics and want the field to have its own department at universities, its own its own NSERC committee, etc. More and more statistics department have been created since my effort to recruit statisticians for CAMS/SCMA; among the more recent ones is the new Department of Statistics at my own University of California, Irvine (UCI for short) about seven years ago.

On the other hand, such practices are not universal. There is not a separate
statistics department at MIT and other major research institutions. While NSERC created a separate Committee for Statistics about the time CAMS/SCMA was established, NSF has steadfastly refused to split off statistics into a separate division.

Statistics has played and will continue to play an important role in many areas in science and engineering, from more classical disciplines such as epidemiology, to emerging fields such as mathematical finance and bioinformatics. It would be important for CAIMS•SCMAI to continue to work to foster an environment that promotes the cross-fertilization between the two areas of the mathematical sciences for the better advancement of the entire scientific enterprise. However, while SIAM has made considerable effort to showcase statistics at its annual meetings, statisticians continue to keep their distances even as computational statistics has provided an important bridge between statistics and computational mathematics.

2. Numerical Analysis and Computational Mathematics: In contrast, numerical analysts and computational mathematicians had always seen themselves as a part of the mathematics community. But by the nineteen seventies, they were either marginalized or excluded from mainstream mathematics departments, perhaps even more so than the applied mathematicians doing research in fluid and solid mechanics. It may be difficult for the younger CAIMS•SCMAI members to envision the schism that existed between mathematicians, including applied mathematicians of the Prandtl-Taylor school, and those who were working in the emerging field of scientific computing. At the time, the latter group typically found their academic home in departments of computer science, applied physics, or operations research, not in mathematics departments or applied mathematics department. In Canada (including Toronto, Waterloo and UBC) at the time, computational mathematicians were housed in the Computer Science and not in Pure or Applied Mathematics. (Our CAIMS•SCMAI Past President, Bob Russell, was a notable exception at SFU.) As computer science becomes more diversified with age, computational mathematics seems to have become less central to the academic mission of computer science departments, at least in my limited vision.

I believe that CAMS/SCMA members, similar to their SIAM colleagues, had the correct vision that computing and communications would be a significant component in 20th (and 21st) century science and engineering. This was evident by the significant roles of Tom Hull, Alan George, Wayne Enright, Bruce Simpson and Jim Varah at the early days of our Society. With the perceived potential of scientific computing more than fulfilled by what it has done for science and engineering since those early days of our Society, numerical analysts and computational mathematicians will continue to be a significant part of CAIMS•SCMAI.

3. Solid and Fluid Mechanics: In the early days of CAMS/SCMA, the annual meeting of the Society were held jointly with the Canadian Symposium on Fluid Dynamics to ensure adequate attendance. A significant fraction of our members felt at the time that the Prandtl-Taylor type of applied mathematics, closely
tied to fluid and solid mechanics, was a mature research field and a new professional applied mathematics society should direct its limited resources to promote research activities in new directions and involving new applications (such as ecology, resource economics, management sciences, neuroscience, mathematical biology, etc.).

Over the years, CAIMS•SCMAI certainly has broadened its scope of activities beyond the mechanics of continuous media and the related mathematics. On the other hand, mechanics itself has undergone some significant changes to venture into new research territories. Stimulated by significantly enhanced computing capability and experimental techniques, the field has now engaged in mechanics research at a microscopic level and opened up new research frontiers for the discipline. The new analytical and computational techniques had to be developed or re-invented to meet the needs of the new multi-scale approach in the new nanotechnology environment. CAIMS•SCMAI appears to be sensitive to these developments and has continued to provide support to applied mathematics activities relevant to research in mechanics at its new research frontier.

4. A Society Journal: Most professional societies have one or more archival journals for research publications. CAMS/SCMA considered a journal of its own shortly after it came into existence. For a small organization with very limited resources, it was not realistic trying to launch a full fledged research journal. The Society settled for a small pamphlet-like publication called Applied Mathematics NOTES de Mathématiques Appliquées. Though publishing mainly expository articles and educational notes, the modest journal provided a vehicle for member involvement.

The last issue of the NOTES I have in my possession was Volume 15, dated December 1990 and co-edited by Bob Elliott and Herb Freedman. Shortly after that issue, I recalled being involved in some discussion about a more regular research journal for the Society, or at least sponsored by CAMS/SCMA. The Canadian Applied Mathematics Quarterly was born with its first issue published in winter, 1993, co-edited by Bryant Moodie and Herb Freedman.

The Institute of Applied Mathematics at the University of Alberta has provided a home for the new journal from its inception and provided a succession of editors for the Journal over the years. Except for a short period of delayed publications under an inactive editor, CAMQ has had a continuous existence of 17 volumes with four issues per year under the Managing Editors team of Michael Li (U. of A.), T. Bryant Moodie (U. of A.) and Michael Ward (UBC). While there is no shortage of publishable manuscripts submitted to CAMQ, the Journal has been handicapped in a number of ways. As long as it is in black and white, the Journal would not attract high quality manuscripts involving sophisticated color graphics. This limitation in turn reduces the appeal of the Quarterly to citation index publishers and hence not attractive prospective authors and subscribers. This is only
one of the issues that puts the Quarterly in a catch-22 situation.

To make CAMQ the go-to flagship journal in applied mathematics in Canada, we need to invest in the Journal. Suggestions in that direction include 1) re-designing the appearance of CAMQ, 2) online submission procedures, 3) established CAIMS•SCMAI members (including members of the CAMQ editorial board) submitting a paper to the Quarterly, 4) making the journal freely available online, 5) using with a professional publisher, etc. Note that a professional publisher needs not be a commercial one (which would restrict access, opposite to suggestion 4)). Mathematical Sciences Publishers is a non-profit and open access publisher which publishes many established mathematics journals including Pacific Journal of Mathematics, Algebraic and Geometric Topology, etc. (see http://www.mathscipub.org/journals.html). One other approach would be to do some research to learn from SIAM how their 14 journals have done so well over the years. Four of them were initiated within the last 7 years.

- SIAM Journal on Financial Mathematics 2009
- SIAM Journal on Imaging Sciences 2008
- Multiscale Modeling and Simulation 2003
- SIAM Journal on Applied Dynamical Systems 2002

5. **Pure Mathematics vs. Applied Mathematics:** No reflection would be complete if the issue of “pure vs. applied” is not addressed. Briefly, the last half of the 20th century was a period of alienation between those who worked on general mathematical constructs (often known as “pure mathematics”) and those who worked on specific constructs or applications of the results from the studies of general constructs (often known as “applied mathematics”). At its peak, the alienation led to formal separation of the two groups in terms of their academic homes in an institution, professional organizations for their research and educational activities, degree programs, etc. The degree of separation may be complete or partial. In the case of academic home for a faculty member and degree programs, we have the scenario of an applied mathematics department separate from a traditional mathematics department (as at the University of Waterloo and the University of Washington) or separate applied and pure mathematics divisions within a traditional mathematics department (such as the set up at MIT) or a separate degree granting unit without departmental responsibilities (such as the Institute of Applied Mathematics and Statistics at UBC). It was in this climate that applied mathematicians of various persuasions sought other outlets for their professional energy and activities. SIAM was founded in the early nineteen fifties to meet such a demand in the U.S. and CAMS/SCMAI emerged in the late nineteen seventies for the same reason.

There were of course exceptions to this general development, and not always for the same reason. As we approached the end of the 20th century, the alienation seemed to be subsiding gradually. Few, if any, new departments of applied
mathematics have been formed since the late nineteen nineties. More importantly, the applied and computational mathematicians in a traditional mathematics department have not expressed the high level of frustration or alienation seen in the previous few decades. It appears that mathematicians of all elks now appreciate more the symbiotic relations among groups with different research interests. In fact, it is no longer a rare event for an applied mathematician to chair a mathematics department. Have we entered an era of peaceful coexistence between “pure” and “applied”, if not genuine appreciation of each other? Whatever the answer may be, it seems certain that we will not turn back from our commitment to a separate professional society for applied mathematics here in Canada. We have come a long way with ICIAM and the mathematical community has gotten too big for a single professional organization to look after the interests and activities of all its constituents.

Concluding Thoughts: I listed above some of the issues faced by our Society at its early days. While they may not have completely disappeared, some changes have moved them in a positive direction and others have morphed them into another form. Statisticians are participating in CAIMS•SCMAI annual meetings. Computational mathematics is flourishing. Solid and fluid mechanics are enjoying a rebirth in the age of nano-technology though with more of a computational slant. The Society journal has grown from a pamphlet of expository articles to a regular archival research journal. Applied and pure mathematics are by and large more comfortable with each other under the same roof. Some may like to see an even larger CAIMS•SCMAI; others may prefer the intimacy and ease of interaction of a moderate size society. Whatever issues there may still be, it should be gratifying to all of us that CAIMS•SCMAI is thriving after all these years and has become an integral part of the international community of industrial and applied mathematics. To this founding member of the Society, what was started at a SIAM meeting in Toronto 30 years ago has evolved into an organization that is every bit what we had hoped that it would become. I personally look forward to participating in the next celebration and see a Society continued to be active at the new research frontier.
Henning Rasmussen (1939-2009)

by Christopher Essex

Henning died suddenly, and unexpectedly at the age of 70 plus epsilon in August. We were all shocked and saddened. He was known as a former CAIMS president, and a former Chair of the Department of Applied Mathematics of the University of Western Ontario.

Born in Mcesinge, Denmark, near Odense, in 1957 he immigrated to Canada while in his late teens. Years later, when he returned to Denmark for work or sabbaticals, he was treated as a visiting alien. It was typical of him that he was delighted by the confusion he caused Danish immigration officials when he, “the foreigner,” conducted business flawlessly in the local Danish dialect.

He took his bachelors and masters degrees from Western, but then went to Australia (Queensland) for a PhD. His research was on modelling and computation, which is to say that there was little that did not escape his interest, academic or otherwise. His research had the huge range that applied mathematicians are uniquely capable of: everything from the purely theoretical to practical engineering and finance.

Long before organizations like MITACS, Henning was attempting to establish ties between academia and industry. But he didn’t just wait for industry to come to him, he created Simulation Western here, and used it as a vehicle to go out and find the research work industry needed doing. Uncharacteristically for an established academic, he did much of the legwork himself, knocking on a great many doors.

Why would you do that Henning? “It’s like dating girls. They can’t say yes, unless you ask.” Contemporary efforts to link academia and industry could learn much from his cheeky comment. And his approach actually worked. An example, I recall, was a contract he got with Siemens to model auto airbag switches.

His experience in this also taught him (and us) something surprising. Contrary to the cliché, foreign branch plants were more inclined to support Canadian research than wholly owned Canadian companies. Henning had a talent for expos-
ing false clichés, as well as stripping away pretense and illusions—or “BS” as he would more likely say.

But he never seemed to pay for being too forthright or telling people what they might not like to hear, because people simply liked him. His jovial personality and his infectious, booming laugh were only part of that. Just try to develop a grudge against someone who liked to wear shorts for eight months of the year, and who would laugh at being called short and bald and even take it as an endearment.

Beginning as a laborer when he came to Canada, he liked to say that being a laborer was too hard a way to make a living, so he became an academic instead. As an academic, he was not above commenting from time to time on the “BS” of academic life, or skeptically on the sanity of some of his colleagues. But he always concluded that the academic life was still better than picking tobacco.

Among the many expressions that Henning liked to use, “Life is too short,” was among the most repeated by him. He meant it differently on different occasions. Sometimes, it was a caution to avoid being sucked into life’s many unnecessary, pointless, soul-sapping distractions. On others it was a lament that there was literally not enough time to fit in all of the wonder, adventures and joys that life has to offer. Either way, it meant we must make the best of life that we can—a problem in optimization.

He wouldn’t normally begin conversations with lame small talk like, “How are you?” That was no fun. Instead his approach was to ask something like, “What are you complaining about today?”

If you didn’t know him, you might be taken aback. Was he singling you out as a complainer? No. Just as we are all sinners according to certain religious teachings, in the Rasmussen “theology” we were all complainers, including him. The point was to laugh at the futility of most of it. And laugh he did, whether you did or not. Sure, complain over lunch—for fun—but don’t waste your life on too many quixotic causes because... life is too short.

And over lunch he loved to argue about literally anything from string theory to identity politics. He once proposed lodging a human rights complaint against those who publish the cartoon strip Hägar the Horrible because it was a slur against Danish people. That was just a joke, wasn’t it Henning? With Henning, there were lessons to be found in humor, or was it humor in lessons?

Taking both sides of an argument was an amusement for him. Working an opponent into arguing against his own position was a special delight. He could make short work of any ideology you could name, and anyone pushing one of them would be quickly trussed up like a calf at a rodeo. It must have been fun at those faculty union meetings he participated in.

I will always remember fondly the grand Christmas parties that he and his wife Anne put on with his children Kristian and Hannah. There was a real tree, with real candles on it. And then there were the Danish style Christmas donuts that he
made fresh during the party in the kitchen, where everyone was welcome to come and visit. I will also remember him sleeping cheerfully on a mattress on a hallway floor when he came to visit me in the cramped housing I had when living abroad.

He was an honest and genuine man, who loved life, and showed us all how to laugh in the face of adversity; to use our heads; to know “where to draw the line,” and, above all, to “be realistic!” He got the three score and ten that he sometimes talked about, plus a little more. But for all of us who knew him, and miss him, his life was indeed “too short.”

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**Sam Shen’s remembrance of Henning Rasmussen**

On August 12, 2009, I was saddened to hear that our dear friend Henning passed away suddenly. Henning was a dear friend to many applied mathematicians around the world. He was a person who often made others have days of happiness.

I first met Henning in 1990 at the CRM’s summer workshop on free-boundary problems organized by him and John Chadam. We immediately became friends. Of course he had the ability of becoming friends to any mathematician or others! Half a year later he invited me to visit UWO for a job interview. During my stay at London, I visited his home and met his family, a very happy family that was full of laughs and hospitality.

Henning was CAIMS President in 1995-1996. He was a constant participant of the CAIMS meetings, together with the UWO group of applied mathematicians. His contributions to his research field and the development of the applied mathematics in Canada and at UWO are remarkable.

Henning Rasmussen will be remembered by all of us.

Professor Samuel Shen, Chair
Department of Mathematics & Statistics
San Diego State University
Sunspots, Murder, Whiskey, and Witchcraft

Dr. Sallie Baliunas Gives the 2009 Nerenberg Lecture

By Christopher Essex

2009 was the international year of Astronomy. For our part we focused on change and constancy of the Sun.

The Sun has gone quiet and no one knows quite why. Where have the sunspots been these last years? Few alive today have lived through a time when the Sun has been so quiet, for so long.

Humans imagine they are experienced, but we are talking of timescales long compared to humanity itself, let alone a single lifetime. These timescales are foreign to all of our experiences. Moreover, from a human perspective the Sun seems a blinding constant, so the notion of geological change is perhaps better engrained in the psyche than stellar evolution is, but the Sun does change.

Grappling with it fully is a deep theoretical problem, and our empirical experience with it is all too short. But if we can look at stars of similar type, the Sun proves unusually peaceful. Will our star behave more like them eventually?

To broaden our empirical range, we can also look into the Earth’s past for some insight: recorded history, archeology, or even paleontological records. If we can’t have human memory, maybe we can have the “memory” within the Earth itself. Dr. Sallie Baliunas, an Astrophysicist at the Harvard-Smithsonian Center for Astrophysics was the ideal guide.

She was awarded the Newton-Lacy-Pierce Prize of the American Astronomical Society, and the Bok Prize. A former Deputy Director at Mount Wilson Observatory, she currently leads the International Astronomical Union’s Working Group on Astronomy from the Moon. In
1991, Discover magazine profiled her as one of America’s outstanding women scientists. Communicating science popularly is something else she is known for. For example, she received the Chris Award from the Columbus International Film and Video Festival and she was even science advisor for the science-fiction television series, Gene Roddenberry’s Earth: Final Conflict.

After some solar physics, her eclectic talk took us into the past. In the 17th century, during the Maunder minimum, widespread witch killings may have been set off because the idea that the Sun might cause small climate shifts was beyond the people of the time. They preferred an anthropogenic explanation, as they do today.

Scotch whiskey, is made with barley roasted over peat. Peat comes from bogs. The organic matter in it leaves a record or “memory” of climate shifts as well as of change in the solar magnetic field over millennial timescales. And change it does. Does your scotch contain memory of what the Sun was doing millennia ago?

The peat bogs have the ability to “remember” other things too. Archeologically they have been a place to dispose of human remains that stay creepily preserved for millennia. She told us of a modern day murderer who confessed to disposing of his wife in a nearby bog, after being confronted with the skull of a woman between 30 and 50 found there. After the conviction, the skull was found by radiocarbon dating to be from a death preceding his wife’s by about 2000 years. He remains in prison.

There were much longer timescales discussed too. Beryllium 10 is used as a marker for cosmic ray levels, and she also produced a convincing replica skull of the famous “Lucy”, the original of which is millions of years old. But these are but an instant on solar timescales. As I write this, the first spots of cycle 24 seem to be finally showing up a bit late, short lived, and small in number. We can only hope that the Sun will soon return to fulfilling its (very short lived) reputation as constant.

Organized by Western’s Department of Applied Mathematics, the Nerenberg Lecture is named after the late professor Paddy Nerenberg and is intended to honour his appreciation for the democracy of ideas.
Report on SciCADE 2011

by Ken Jackson

At the SciCADE 2007 Meeting in Saint-Malo, France, Wayne Enright, Bob Russell and I submitted a bid to hold the 2011 International Conference on Scientific Computation and Differential Equations (SciCADE 2011) in Toronto either the week before or the week after ICIAM 2011 in Vancouver, so the participants from abroad can conveniently attend both meetings. Last year, we surveyed many of the people who regularly attend SciCADE meetings and the majority favoured holding SciCADE 2011 the week before ICIAM 2011. Therefore, we have chosen the dates 11-15 July 2011 for SciCADE 2011.

We plan to form the Scientific Program Committee for the meeting this fall and choose the invited speakers early in 2010. After that, we will send out a call for minisymposia and contributed talks for the meeting.

SciCADE 2011 will be very much in the same spirit as SciCADE 2009 in Beijing, China <http://lsec.cc.ac.cn/~scade09/> as well as the earlier SciCADEs in Saint-Malo, France (2007), Nagoya, Japan (2005), Trondheim, Norway (2003), Vancouver, Canada (2001), and Fraser Island, Australia (1999). This series of meetings is concerned with scientific computing involving numerical methods for

- Ordinary differential equations
- Partial differential equations
- Differential algebraic equations
- Delay differential equations
- Stochastic differential equations
- Dynamical systems

Typical topics include

- Geometric integration
- Software and implementation issues
- Computational mechanics
- Optimization and control theory
- Inverse problems
- Molecular dynamics
- Image processing
- Multi-scale problems
- Applications to a wide range of problems in science, engineering and finance

and more.

We are looking forward to a very exciting meeting in Toronto in 2011. We hope to see you there.
Join SIAM at Reduced Rates!
Expand your network!

If you are a member of CAIMS•SCMAI and live outside the United States, you can now become a reciprocal member of the Society for Industrial and Applied Mathematics (SIAM) for 20% less than the standard dues. For 2009, the SIAM regular member dues of US $127 will be reduced to US $101.60 for CAIMS members in good standing who reside outside the USA. You can join online or download a reciprocal member application at
http://www.siam.org/membership/individual/reciprocal.php

Join SIAM for networking opportunities, visibility in the applied mathematics and computational science communities, and access to cutting-edge research. Your membership will become active upon receipt of your application through December 31, 2009.

Let SIAM be another source for news and information about applied mathematics and computational science. A SIAM membership includes subscriptions to SIAM News and SIAM Review, and entitles you to substantial discounts on SIAM books, journals, and conferences.

Sincerely,
Susan Whitehouse
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News from the Fields Institute
by Carl Riehm

Edward Bierstone, Professor of Mathematics at the University of Toronto, has been appointed as the new Director of the Institute, beginning July, 2009. He succeeds Barbara Lee Keyfitz, who will be retiring from the Directorship on December 31 to assume a professorship at Ohio State University in Columbus, Ohio. The current Deputy Director, Juris Steprans, will be acting Director in the interim. Bierstone, a graduate of the University of Toronto and a Ph.D. from Brandeis, has made pathbreaking contributions in singularity theory, analytical geometry and differential analysis.

Some future activities which may be of interest to members of the CAIMS:
• Thematic Program on *Foundations of Computational Mathematics* in fall term, 2009 This program will focus on
  – Computational Algebraic Geometry and Symbolic Computation;
  – Computational Number Theory;
  – Computational Geometry, Topology, and Dynamics;
  – Complexity and Computability in Real Computation;
  – Optimization Theory
Three workshops are planned:
  – *Discovery and Experimentation in Number Theory*, September 22-26, 2009
  – *Computational Differential Geometry, Topology, and Dynamics*, November 17-21

See [www.fields.utoronto.ca/programs/scientific/09-10/FoCM/](http://www.fields.utoronto.ca/programs/scientific/09-10/FoCM/) for more information
• Thematic Program on Quantitative Finance in winter term, 2010. There will be three workshops:
There will also be at least four “Industrial-Academic Forums”, bringing together financial experts from the business and academic worlds, and the 6th World Congress of the Bachelier Finance Society will be held June 22-26, 2010, in conjunction with the thematic program.
• IFID/MITACS Conference on *Financial Engineering for Actuarial Mathematics*, Nov. 9-10.

There are also regular seminars, such as the Centre for Mathematical Medicine Seminar Series, the Colloquium/Seminar in Applied Mathematics, the Toronto Quantum Information Seminars, the Actuarial Science & Financial Mathematics Group Meetings, the PRMIA Risk Management Seminars, the Fields Industrial Optimization Seminar, the Seminar Series on Quantitative Finance, and the Fields Symposia on the Mathematics of Transportation.

For more information on all activities at the Institute, please see [www.fields.utoronto.ca/programs/scientific/](http://www.fields.utoronto.ca/programs/scientific/)

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**MITACS Update**

by Aliza Fung

There has been a flurry of activity at MITACS in the last year—diversifying the MITACS research portfolio, expanding and enhancing our training and networking
programs and strengthening international collaborations were the hallmarks of the network’s efforts.

In 2007-2008, funding was announced for new projects in each of MITACS five research themes. Led by Drs. Fahima Nekka (Université de Montréal), Ian Goldberg (University of Waterloo) and Rei Safavi-Naini (University of Calgary), Irène Abi-Zeid (Université Laval), Tom Salisbury (York University), Ray Spiteri (University of Saskatchewan) and Thomas Hillen (University of Alberta), the projects address some of the most important industrial and societal issues of our time. These include quantifying the negative impact on patients who fail to take prescription medication properly, developing effective models to understand the spread, and better control, of forest fires, enhancing the privacy of computer data in our highly-connected world and new tools to help military teams select the best path through terrain in conflict situations.

New funding from the federal and provincial governments enabled MITACS to expand its internship program—now dubbed ACCELERATE Canada—across the country beyond the mathematical sciences to include all academic disciplines. This past year alone, over 235 internships were funded. Looking back to 2003, when MITACS devised the internship program concept and funded 18 interns, no one could have foreseen the impact of this program just five years later.

Due to the support of the Ontario Government through the Ministry of Training, Colleges and Universities and the Government of Canada, MITACS officially opened its second largest office in September. Located in Toronto at York University, MITACS is well-placed to build on its successful record of strengthening connections between all the key players in Canada’s knowledge economy.

MITACS is especially pleased with the continued momentum of the MITACS International Program. France’s Institut national de recherché en informatique et automatique joined the network as a full partner. At the same time, MITACS expanded its focus to include a major new project—modeling spread of infectious diseases in sub-Saharan Africa.

The network also hosted 30 undergraduate students from around the globe for a math “boot camp”. The 2008 MITACS Industrial Math Summer School at Simon Fraser University created quite a buzz in the media around how mathematics can address societal and business challenges. Under the guidance of faculty and graduate student mentors, participating students worked in teams of five to tackle mathematical research on real industry challenges submitted by Canadian companies.

For more information about MITACS, visit www.mitacs.ca. For more information about the MITACS ACCELERATE program, visit www.acceleratecanada.ca.
News from the Pacific Institute for the Mathematical Sciences
by Adam Wojtowicz

On July 1, 2008, Alejandro Adem started his term as Director of PIMS. The University of Saskatchewan has joined PIMS as a full member, and now there are eight member universities in the consortium, including the major research universities from Alberta, British Columbia, Saskatchewan and Washington State.

The summer was full of scientific activities throughout the PIMS sites, including summer schools in modelling of infectious diseases, mathematical finance, string theory, probability, statistics and atmospheric modelling. Two new Collaborative Research Groups (CRGs), in Partial Differential Equations and in Bayesian Modelling and Computation for Networks, started their activities last spring.

The CRG on Complex Geophysical Fluids held two important events this year, namely the Waves in Atmosphere and Ocean Workshop (April 25-26 at SFU) and the meeting "Is there an internal wave continuum in the ocean?" (October 3-4, at University of Washington). The CRG on Climate Modelling held a workshop on Stochastic and Probabilistic methods for atmosphere, ocean, and climate dynamics (July 21-23, at the University of Victoria).

The International Graduate Training Center in Mathematical Biology organized a vibrant summer school at UBC as well as its second annual research summit at Banff last September. This program (directed by Mark Lewis, from University of Alberta) which started in 2007 has been successful at attracting top level graduate students and creating lots of exciting activities in Western Canada.

On October 4-5, PIMS hosted the Western Section meeting of the American Mathematical Society, which had a record participation. There were 18 mini-symposia and a number of plenary lectures.

PIMS is helping to organize the first congress of the Pacific Rim Mathematical Association (PRIMA) to be held in Sydney next July. There will be participation from all over the region, coordinated through the PRIMA network that was established by PIMS (see http://www.primath.org).

Next summer PIMS will be organizing two world-class thematic programs, one of them in Partial Differential Equations (main organizer: N.Ghoussoub, UBC), and the other one on Challenges and Perspectives in Probability (main organizers: D.Brydges & G.Slade, UBC). This second program is a joint venture with our partner institute in Montreal, the Centre de Recherches Mathematiques.

On the industrial side, the 2008 Industrial Problem Solving Workshop was held at the University of Regina and the 2009 edition will be held in Calgary next May. Our recently launched Geomathematics Program will feature a summer school on seismic imaging in Seattle in 2009 as well as industrial short courses in Calgary.

For more information about PIMS, please visit our website http://www.pims.math.ca
CAIMS 2009 Annual Meeting
June 10-14, 2009
Department of Applied Mathematics
University of Western Ontario
London, Ontario

The 2009 Annual Meeting of the Canadian Applied Mathematical and Industrial Society will be hosted by the Department of Applied Mathematics at the University of Western Ontario, in London, Ontario on June 10-14. The themes of this meeting are

- Computational Biomaterials
- Complex Fluids
- Dynamical Systems
- Mathematical Biology
- Mathematical Finance
- Scientific/Symbolic Computing
- Theoretical Physics

There will be seven plenary lectures and numerous invited talks (30 minutes) on the above themes. In addition to these, we also call for mini-symposia on any topics in applied mathematics. If you are interested in organizing such a symposium, please submit your proposal to us by the address given below. There will also be several contributed sessions, as well as a poster session for graduate students to present their research results.

In the meeting, the annual CAIMS Research Prize and CAIMS Doctoral Dissertation Award will be presented to the recipients. In addition, student poster prizes will also be selected and awarded.

The year 2009 marks the 30th anniversary of CAIMS which makes this meeting more special and more worth attending. Some activities are being planned, and this gives one a unique opportunity to know the history of this society. You are cordially invited to join us in London to celebrate the society’s healthy growth and great achievements in the past 30 years.

For more information about this meeting, please visit the website [www.apmaths.uwo.ca/caims2009.html](http://www.apmaths.uwo.ca/caims2009.html) which will be updated in a timely fashion, or contact us at

Rob Corless: rcorless@uwo.ca, Geoff Wild: gwild@uwo.ca, Xingfu Zou: xzou@uwo.ca

We look forward to seeing you and welcoming you at the University of Western Ontario.
The Department of Mathematics and Statistics at McGill University invites applications for a tenure-track position in applied mathematics. While appointments are expected to be made at the Assistant Professor level, more senior applicants would be considered.

The appointment is expected to be in numerical analysis within the broad area of differential equations and scientific computing. Applicants should have expertise in both analytical and computational aspects, and an active interest in problems driven by applications.

Candidates must have a doctoral degree at the date of appointment and a strong background in mathematics. They are expected to have demonstrated the capacity for independent research of excellent quality. Selection criteria include research accomplishments, as well as potential contributions to the Department’s educational programs at the graduate and undergraduate levels.

Applications should be made through MathJobs.Org (Position ID: McGill-APNUM) and must include a curriculum vitae, a list of publications, a research outline, a teaching statement which includes an account of teaching experience, and at least four references (with one addressing the teaching record). Candidates are also encouraged to provide web links for up to three selected reprints or preprints, or to upload them to MathJobs.Org.

Candidates must ensure that letters of reference are submitted (preferably through mathjobs.org, though in exceptional circumstances they may be mailed to Professor A.R. Humphries, Applied Mathematics Search Committee, Dept. of Mathematics and Statistics, McGill University, 805 Sherbrooke St. W. Montreal, QC H3A 2K6, Canada).

To ensure full consideration, complete applications including letters of reference should be received by 8th January 2010, but later applications may be considered.

McGill University is committed to equity in employment and diversity. It welcomes applications from indigenous peoples, visible minorities, ethnic minorities, persons with disabilities, women, persons of minority sexual orientations and gender identities and others who may contribute to further diversification. All qualified applicants are encouraged to apply; however, in accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.
Department of Applied Mathematics
Postdoctoral Positions
in Computational and/or Mathematical Modelling

Candidates with expertise in (i) Condensed Matter Physics, specifically soft and biological matter, and/or multi-scale modelling, or (ii) Mathematical Biology, specifically biomechanics, disease dynamics or evolutionary theory are invited for several post-doctoral positions in the Department of Applied Mathematics at the University of Western Ontario.

These positions are not tied to specific research projects, thus successful candidates will have considerable latitude in their choice of research topic in consultation with their supervisor(s). Potential supervisors for this call are: Rob Corless, Colin Denniston, Mikko Karttunen, Lindi Wahl, Geoff Wild, Pei Yu, Xingfu Zou and Mair Zamir. Candidates must provide a cover letter which explains which of these potential supervisors would be appropriate for the proposed research program.

Successful candidates will have completed a Ph.D. degree, and will have an active research program in mathematical modelling. The appointments will be for 1+1 years with flexible starting dates. Salary will be commensurate with experience and qualifications.

Applicants should apply via mathjobs.org (position ID: Western-PDF), including a curriculum vitae and a research statement, as well as two or three letters of reference.

Applications and letters of reference should be received by February 28, 2010. This competition is open to all qualified candidates, regardless of citizenship.
The annual doctoral Dissertation Award

OBJECTIVE The award has been established by the Canadian Applied and Industrial Mathematics Society (CAIMS) to recognize and to publicize an outstanding PhD thesis in Applied Mathematics defended at a Canadian University during the calendar year prior to the year of the award.

THE AWARD The award consists of a certificate, a monetary prize, and a free one-year membership in the Society. The winner will be invited to present a communication based on the thesis at the Annual Meeting of the Society. Assistance with expenses to attend the meeting will be provided.

COMPETITION Normally, the Award Coordinator must receive by January 31 of a given calendar year four (4) copies of the thesis, an electronic version, along with a covering letter from the thesis supervisor indicating why the thesis is suitable as an entry in the Competition (including a description of the problem, techniques and results, potential impact, ...). The candidate must also submit a separate letter identifying the possible applications of the work, proof of the official date of acceptance of the thesis, and a current CV.

JUDGING The submitted theses will be evaluated by a panel of judges appointed by the President of the Society. Their decision will be final. Judging will be on the basis of the level of originality in the ideas and techniques, the possible applications and their treatment, and the potential impact on science and engineering. The panel of judges may seek advice from other experts. The panel may arrive at the conclusion that more than one or none of the submissions merits the award or an honourable mention.

Award Coordinator: Dr. Raymond J. Spiteri
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spiteri@cs.usask.ca
Prix annuel pour Thèse de doctorat

L'OBJECTIF Le prix a été créé par la Société Canadienne de Mathématiques Appliquées et Industrielles (SCMAI) pour récompenser et faire connaître une thèse de doctorat exceptionnelle en mathématiques appliquées. Cette thèse devra avoir été soutenue par une université canadienne au cours de l'année civile qui précède celle de l'attribution du prix.

LE PRIX Il comporte, outre une certificat et une somme d'argent, la participation gratuite pour un an dans la Société. Le gagnant sera invité à présenter une communication portant sur sa thèse à la réunion annuelle de la Société, cette invitation allant de pair avec de l'aide financière pour assister à la réunion.

LE CONCOURS Habituellement, le coordinateur du prix doit recevoir, dès le 31 janvier, quatre (4) exemplaires de la thèse soutenue durant l'année civile précédente ainsi qu'une lettre du directeur de thèse expliquant pourquoi la thèse en question soit acceptable pour le concours (description du problème, techniques, résultats, impact possible, ...). Le candidat doit également soumettre une lettre décrivant les applications possibles de ses travaux, et un CV récent. Enfin, une attestation officielle de la date d'approbation de la thèse doit accompagner l'envoi.

LE JURY Les thèses soumises seront évaluées par un jury de juges nommés par le président de la Société. Leur décision sera sans appel. Les critères d'appréciation seront le niveau d'originalité des idées et des techniques, les possibilités d'application et leur traitement, l'impact possible sur le développement des sciences et de génie. Le jury pourrait consulter d'autres experts. Celui-ci pourrait décider d'attribuer le prix à une ou plusieurs personnes ou de ne pas l'attribuer du tout, il en serait de même pour les mentions honorables.

Le Coordonnateur: Dr. Raymond J. Spiteri
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