Newsletter *Winter 2007*

Letter from the Administrator

At the beginning of a new year it is usual to look back and reflect. It has now been more than a year since the Directorship of AARMS moved to Dalhousie and I have had the pleasure in that time of being a part of the organization and of meeting a wide range of people who have in one way or another been involved with AARMS. Although my own expertise in mathematics is limited, I have been impressed by the diversity of the community, the range of activities going on, not all of them well publicized, and the commitment of people to their work and to the dissemination of their ideas.

These are the ingredients for a thriving community, but only if there also exists the means by which members can interact and share their enthusiasm and knowledge. As a regional organization, AARMS enhances interaction and collaboration, across provincial borders and between universities. It also serves as a voice for our community in dialogue with the other regions of Canada and with the rest of the world.

In 2007, as we move into another year of scientific activities I would like to encourage everyone to revisit and to bookmark our website (www.aarms.math.ca). It's there to let you know what's happening but it's also there to let everyone else know what *you're* doing. If communication is the life-blood of an organization, participation is the heart which keeps it flowing. Contributions for the website and the newsletter are welcome at any time.

Looking ahead there are big projects on the horizon: the AARMS book series, the ASCI project, the 2007 Summer School and the push towards independent funding and an enhanced budget for 2008 and beyond; all of which are described in more detail on the NEWS page. Have a good year and do keep in touch.

David Langstroth

Atlantic Community Math Network Conference is a hit

The Atlantic Community Math Network Conference was held at Acadia University in Wolfville, Nova Scotia on November 25th, 2006. The meeting attracted a variety of individuals from across the region, including mathematicians, mathematics educators, students, teachers, and administrators. The Conference informally began Friday evening, with a Public Lecture by Keith Devlin (Stanford), *The Numbers behind Numb3rs*, in which he explored the motivation for the show and some of the mathematics used.

Saturday morning began with an excellent talk by Frédéric Gourdeau (Université Laval) entitled *Mathematics is not a list of topics!* Frédéric shared some of his reflections on mathematics education for teachers, with a focus on developing their attitude to mathematics and their ability to reason correctly and do mathematics by themselves or with others. Jillian Falkenberg (Dalhousie) then gave a presentation about her work on developing the *Numbers* website, which was described in the Autumn 2006 AARMS Newsletter. Jillian was followed by a panel discussion on the broad question of *What should be core mathematics curriculum?* Panelists David Reid (Acadia), Lisa Lunney (St FX), Debbie Boutilier (Acadia), and Frédéric Gourdeau (Laval) stimulated an interesting and entertaining discussion.

After lunch Keith Devlin gave an address, *What do we mean by "doing math"?* in which he explored a variety of situations in which mathematics appears to be going on, though not in the traditional sense, and how we might use these ideas to reassess how we teach. The afternoon session featured two additional speakers. Sherry Mantyka (Memorial) spoke on *The Math Plague*, and Tara Taylor (St FX) described her work in trying to bring a service learning component into her math classes.

Jeff Hooper

News

Growth and Future Plans

Since the last newsletter we have been pleased to welcome Saint Francis Xavier University into the AARMS Community. Further, we are pleased to report that Cape Breton University will be joining in 2007. This continued growth gives us a great forward momentum for making our application to NSERC in the autumn of 2007 for full independent funding. Under an independent funding model we anticipate increased support from the provinces and other stakeholders, increasing our capacity to foster and support research in our region and reflecting our growing role both nationally and internationally.

The AARMS Book Series is Born

We have now signed a contract with the AMS to collaborate on the publication of a series of monographs based on the specialist courses given at the annual AARMS Summer School. Lecturers at the Summer School will be given the option of preparing their course materials for publication, although this is not a requirement for teaching a course. The Editorial Board has had its first meeting and consists of Jon Borwein (Dalhousie), Robert Dawson (Saint Mary's), Ron Fitzgerald (MathResources Inc), Dan Kucerovsky (UNB), David Langstroth (AARMS Administrator) and Richard Wood (Dalhousie). We have three, and possibly four, authors already identified for publication.

Acadia to Host HPC Workshop and Conference

Plans are under way for a substantial high performance computing event at Acadia University, June 9-14 that will include training workshops in parallel programming, collaboration and visualization technology, and working with ACEnet, Atlantic Canada's HPC consortium. There will also be two days of scientific conference. The details have yet to be finalised; check the website for updates (www.aarms.math.ca).

The Atlantic Shared Curriculum Inititive (ASCI)

AARMS is currently putting together a proposal to run a pilot program of graduate-level courses in mathematics involving all three founding universities (Dalhousie, Memorial and UNB). The courses will be delivered via Access Grid Technology and the students on any particular course will be distributed amongst the three locations. Watch this space for more news.

Virtual Researchers on Call

An innovative outreach project funded by the Ontario Government, Virtual Researchers on Call (VROC) is an attempt to make Canadian Scientists accessible to school children through collaborative videoconferencing technology. As a member of the Advisory Board, Jon Borwein has been discussing the expansion of the program into Atlantic Canada centred initially at Dalhousie University.

Summer School 2007

Our sixth annual Summer School will be held in the Department of Mathematics and Statistics on the campus of Dalhousie University, from July 15 to August 10, 2007. This is the third summer school held in Dalhousie, and we expect around 40 students. Among several applications already received is one from a participant at the 2006 summer school,our first "repeat" customer. There will be four course offered:

Polynomials
Instructor: Ed Barbeau, University of Toronto
Statistical Numerical Integration
Instructor: Alan Genz, Washington State University
Mathematical Models in Ecology and Evolution
Instructor: Frithjof Lutscher, University of Ottawa
Introduction to Number Theory
Instructor: Alf van der Poorten, MacQuarie University

In addition to the academic programme there will be several social events, including an opening reception, an outing to Lunenberg, and a barbecue on the last day of classes. The classes will all take place in the Colloquium room of the Chase building, home to the Departmentof Mathematics and Statistics. For more information see www.aarms.math.ca/summer/2007, or email the Schooldirector, Pat Keast, at keast@mathstat.dal.ca .

The 2008 summer school will be held at the Department of Mathematicsand Statistics of the University of New Brunswick.

Pat Keast
Director, AARMS Summer School

People

Tara Taylor brings Math to the Community with Service Learning

The course Math 100 (Mathematical Concepts) at St. Francis Xavier University is a required course for students wishing to pursue an elementary education degree. A typical student has a fear of math, just wants to get through the course, and doesn't see the relevance of math for becoming an elementary school teacher. With my own daughter in grade two, this has become a very personal issue for me- having repeatedly met elementary teachers who willingly claim to be not very good at math (while still agreeing that math is important). So, to help address the problem of the general public's sometimes negative attitudes towards math, and to get my own students in Math 100 excited about math, I decided to introduce an optional service learning component to the course.

Course-based service learning is a pedagogical approach whereby students provide service as a way to reinforce theory from the classroom. It can involve direct service to the public (ex. computer support and instruction at community access sites) or the creation of new community services (ex. After-school physical activities program), to name but a few possibilities.

First the students must decide on a community group (school class, sports team, etc.) in Antigonish or elsewhere (many students from smaller rural communities choose to do the activity at home) and a math-related activity. They submit a proposal for their activity, including an explanation of the relevance of the activity for the specific group. The service learning program manager at StFX sets up some of the activities, while other students are able to do this directly. Examples of activities this year included the math of curling (with junior high students in a town which recently opened a new curling rink) and math jeopardy (with one student growing a moustache and wearing a grey wig to look like Alex Trebek). Finally, the students give a brief presentation to our class and submit a written report.

So far the service learning component has been extremely successful. My own biggest fear was that there wouldn't be many students interested in doing it. I was pleasantly surprised at the interest and excitement of my students. The students that chose to do service learning this term all enjoyed it and plan to do it again, while their success has encouraged other students to try next term. There have been some glitches along the way, mostly involving the logistics of sorting everything out, and the extra time needed to spend with the students, but it has definitely been worthwhile. The students who did math jeopardy received wonderful Christmas cards from the class that they were involved with, and it was clear that they had all had fun.

Tara Taylor (ttaylor@stfx.ca)

In Memory: Dr. Charles Lee

Atlantic Canada lost a true gentleman and scholar when Dr. Charles Lee was killed in a tragic car accident in St. John's on August 31, 2006.

Born in Taiwan and with two graduate degrees from the University of Oregon, Charles came to Memorial University in 1973 as part of a statistics group of two or three. He lived to see the group expand to over a dozen faculty and 20 graduate students. At his death, he had been Deputy Head (Statistics) for many years.

Charles was a fine statistician with many professional interests, including order restricted statistical inference, statistical optimization and computation, stochastic ordering and nonparametric statistics. He was supported continuously by NRC/NSERC throughout his career.

He was also an avid gardener known widely for his snow peas and a wicked table tennis player as many a Memorial graduate student will attest. It is noteworthy that his three PhD students returned to St. John's from jobs in California, Texas and Nova Scotia for a memorial service held on September 9.

Charles leaves a mother and sister in China, his wife, Lisa, and two sons Denny, now working for Microsoft in Seattle, and Derrick, an undergraduate at Memorial University. He also leaves a large number of friends from all walks of life who will miss him dearly and most surely never forget.

A scholarship fund is being established in Charles' name. Please contact edgar@math.mun.ca for details.

Edgar Goodaire

Recent and Upcoming Events

Atlantic Community Math Network Conference

Organizer: Jeff Hooper

Location: Acadia University, Nova Scotia

Date: November 25, 2006   More Information: Jeff Hooper (jeff.hooper@acadiau.ca)

Black Holes VI

Organizer: Jack Gegenberg

Location: White Point Beach Resort, Nova Scotia

Date: May 12-16, 2007   More Information: Jack Gegenberg (geg@unb.ca)

12th Canadian Conference on General Relativity and Relativistic Astrophysics

Organizer: Jack Gegenberg

Location: University of New Brunswick, Fredericton, New Brunswick

Date: May 17-20, 2007   More Information: Jack Gegenberg (geg@unb.ca)

Session at the Statistical Society of Canada (SSC) Annual Meeting

Organizer: Brajendra Sutradhar

Location: Memorial University of Newfoundland, St. John's, Newfoundland

Date: June 10-13, 2007   More Information: Brajendra Sutradhar (bsutradh@math.mun.ca)

Workshop on Noncommutative Geometry

Organizer: Dan Kucerovsky

Location: University of New Brunswick, Fredericton, New Brunswick

Date: June 11-15, 2007   More Information: Dan Kucerovksy (dan@erdos.math.unb.ca)

AARMS/ACENET Summer Workshops and Conference in High Performance Computing

Organizers: Hugh Chipman, Richard Karsten

Location: Acadia University, Wolfville, Nova Scotia

Date: July 9-14, 2007 More Information: Hugh Chipman (hugh.chipman@acadiau.ca)

Key Dates

January 31, 2007	Deadline for Applications for the PDF Program
May 12-16, 2007	Black Holes VI
May 17-20, 2007	General Relativity Conference
June 10-13, 2007	SSC Annual Meeting
June 11-15, 2007	Non Commutative Geometry Workshop

*"Among the many misdeeds of the British rule in India, history will look upon the act depriving a whole nation of **AARMS** as the blackest."   - Mahatma Gandhi*