



Newsletter

Summer 2009

At the CMS Summer Meeting: Special Session - Math Education

The Special Session for Math Education at the upcoming Canadian Mathematical Society (CMS) Summer Meetings 2009 in St. John's, NL, from June 6-8, is taking a special form this year. AARMS is pleased to be co-sponsoring this special session with the Canadian Language and Literacy Research Network (CLLRNet). The co-sponsored session has a strong focus on Numeracy and implications for mathematics education, and features talks from six developmental psychologists:

Detours in the Development of Mathematical Thinking (Jeff Bisanz, University of Alberta); The importance of understanding the inverse relation between addition and subtraction (Peter Bryant, University of Oxford UK); Numeracy and Arithmetic in the Brain: The Roles of Development and Individual Differences (Daniel Ansari, University of Western Ontario); The scheme of correspondence and its role in understanding relations (Terezinha Nunes, University of Oxford UK); The implications of symbolic systems and non-symbolic systems in fraction understanding (Darcy Hallett, Memorial University); Nim, Human Learning, and Teaching Mathematics (Michael Rabinowitz, Memorial University)

The Numeracy/Math Education Special Session also features talks from Helaman Ferguson, sculptor, John Mighton, Fields Institute, author of *The Myth of Ability: Nurturing Mathematical Talent in Every Child* and founder of JUMP (Junior Undiscovered Math Prodigy), and Garry Davis, a high school teacher from the Saskatoon Public School Division who is piloting a program for assisting under-achieving students entering high school using an approach similar to the program developed by the

the Mathematics Learning Center in Memorial University. For more information, please contact the session organizer, Sherry Mantyka, at smantyka@mun.ca.

MITACS 2009 Annual Conference

The 2009 MITACS Annual Conference will be held at the University of New Brunswick, Fredericton, May 31 - June 5. The top academics in the mathematical sciences community will come together to explore advances and share research results. This event aims to bring together partner organizations in the academic, public, private and not-for-profit sectors with university researchers to generate solutions.

The five thematic areas of MITACS research will be featured :

Anne Condon (UBC) - Biomedical & Health; Peter Glynn (Stanford) - Communication, Networks & Security; Chris Jones (North Carolina) - Environment & Natural Resources; Pedro Domingos (Washington) - Information Processing; Tom Salisbury (York) - Risk & Finance. Public Speaker: Gerda de Vries, University of Alberta.

www.mitacs.ca/conferences/AC09/

Seventh Canadian Computational Chemistry Conference

The Seventh Canadian Computational Chemistry Conference (CCCC7) will be held July 20 to 24, 2009 on the compact campus of Dalhousie University (founded in 1818) in Halifax, Nova Scotia. The scope of this triennial international conference is all areas of computational chemistry. The format will be 37 invited oral presentations and two poster sessions.

<http://www2.bri.nrc.ca/cccc7/>

News

Spring Activities at the Atlantic Algebra Centre

1. Mini course “Algebraic Coding Theory” by Professor Sergio Lopez-Permouth of Ohio University, USA, March 30 – April 4, 2009 (host Dr Yiqiang Zhou)
2. Undergraduate Algebra Competition conducted by Dr Mikhail Kotchetov and Mike Parmenter. Winners: Andrew Stewart (Memorial University), 1st Prize, Danny Hay (UNB Fredericton), 2nd Prize, Pam Sargent (Mt. Allison), 3rd Prize.
3. Mini course “Composition Algebras and Their Gradings” by Professor Alberto Elduque of University of Zaragoza, Spain, May 3 – 9, 2009 (hosts Yuri Bahturin and Mikhail Kotchetov)
4. Distinguished Colloquium “Exceptional Numbers” by Professor Alberto Elduque of University of Zaragoza, Spain, May 6, 2009
5. Preparation to International Workshop/Session of Summer 2009 CMS meeting “Groups and Hopf Algebras” to be held from June 3 – 7, 2009 in St. John’s (details on AAC web site www.math.mun.ca/~aac/2009schedule.pdf)
6. AAC backed candidate Dr Eugene Chibrikov of Novosibirsk/Sao Paulo has been awarded by AARMS Postdoctoral Fellowship for 2009/2010 academic year
7. AAC named AARMS Distinguished Lecturer Professor Hans - Juergen Schneider of University of Munich, Germany, will give four lectures in Atlantic Canada: June 3 and 4 in St. John’s, NL, June 10 in Halifax, NS, June 11 in Sackville, NB



Professor Alberto Elduque with Dr Mikhail Kotchetov and PhD student Jason McGraw, May 2009.

2009 Summer School

The eighth annual AARMS Summer School will be held in the Department of Mathematics and Statistics on the Fredericton campus of the University of New Brunswick, July 12 through August 8, 2009. The summer school is intended for graduate students and promising undergraduate students from all parts of the world. Each participant will normally take two of the following courses:

- * Algebraic Topology (Math 6501 - Advanced Topics in Maths. I, Algebraic Topology) Instructor: Gustavo Granja, Instituto Superior Tecnico (Lisbon)
- * Cryptography (Math 6501 - Advanced Topics in Maths. I, Cryptography) Instructor: Mike Jacobson, University of Calgary
- * Introduction to Quantum Computing (Math 6512 - Advanced Topics in Maths. II, Quantum Computing) Instructor(s): David Kribs and Rajesh Pereira, University of Guelph
- * Topological Combinatorics (Math 6512 - Advanced Topics in Maths. II, Topological Combinatorics) Instructor: Daniel Matei, Institute of Mathematics (Simion Stoilow) of the Romanian Academy

Each course consists of five ninety-minute lecture sessions each week. These are graduate courses approved by UNB, and we will facilitate transfer credit to the extent possible. For more general information about the Summer School, UNB and Fredericton, please follow the links at www.aarms.math.ca/summer/

Note that AARMS covers all on-site costs for students (accommodation, food, tuition, etc.). Students (or preferably their home institutions!) are responsible for travel expenses.

Fredericton is the capital city of New Brunswick and is located on the beautiful St. John River, about 100 km from the Bay of Fundy. Tourist attractions include the Boyce Farmer's Market, the Historic Garrison District, the Beaverbrook Art Gallery, Christ Church Cathedral and (30 km upriver from the city) King's Landing Historical Settlement.

To contact the Director of the Summer School please email Barry Monson (bmonson@unb.ca).

People

In Appreciation: Jon Thompson



Jon Thompson, professor emeritus at UNB, will be stepping down from the AARMS Executive and Board of Directors at the end of June 2009, after many years of distinguished service to the mathematical sciences community in the Atlantic region. With Richard

Wood (Dal) and Edgar Goodaire (MUN), Jon was a founding organizer of AARMS, and over the years played an active role in its development from a small collection of researchers in the late nineties to its present stage of national prominence. Jon brings an astuteness and calm wisdom that have been relied upon by four AARMS Directors. His vision and commitment have enormously benefited AARMS over the years. In addition to his manifold contributions to AARMS, Jon was Chair of UNB's Math and Stats department for seventeen years, and has been active in national professional organizations: He was on the Board of Directors of the Fields Institute (1996-98), a Vice-President of CMS (2003-05), and chaired the Academic Freedom and Tenure Committee of CAUT (1985-88). He is a member of the Board of Directors of the Harry Crowe Foundation.

AARMS Distinguished Lecturer Hans-Jürgen Schneider

Professor Hans - Jürgen Schneider is a world recognized specialist in the area of Hopf Algebras. His whole mathematical career is closely related to the Mathematical Institute of the University of Munich. Since 1978 he has been a Full Professor at that university. He works in close cooperation with his international colleagues in Asia, Americas and Europe. His joint work with colleagues in Argentina brought him the title of the Corresponding Member of Academia Nacional de Ciencias (Cordoba), Argentina. An impressive publication list of Professor Schneider includes such prestigious journals as

Annals of Mathematics, Advances in Mathematics, Crelle Journal, Inventiones Mathematicae, Journal of Algebra and others. His latest fundamental results on the classification of pointed Hopf algebras obtained jointly with Professor Nicholas Andruskiewitsch appear in Advances in Mathematics and Annals of Mathematics. Professor Schneider is an excellent lecturer, and his lectures and surveys on Hopf Algebras proved to be very useful introduction to this otherwise very challenging area of Algebra.

The schedule of lectures by Professor Schneider at the Universities of Atlantic Canada is as follows: June 3: 2:30 "Hopf algebras and root systems I", St. John's, NL, Memorial University, Rm A-1046. June 4: 2:30 "Hopf algebras and root systems II", St. John's, NL, Memorial University, Rm A-1046. June 10: 11:00 "Nichols algebras", Dalhousie/St. Mary's Universities, Halifax, NS, Saint Mary's University, SB 165. June 11, 2:00 "New developments in the theory of pointed Hopf algebras", Sackville, NB, Mount Allison University, Dunn Building.

For further information and for contact details please visit the AARMS website:
www.aarms.math.ca/events

Publications

Papers by Jonathan Barzilai,
Posted at www.ScientificMetrics.com

Game Theory Foundational Errors Part IV

The minimax rule of two-person zero-sum game theory prescribes risky choices with choice probabilities that are divorced from choice consequences. The optimal probabilities cannot be computed from indefinite utility scale values and the problem is formulated incorrectly.

Ordinal Utility and Indifference Curves

The claim that modern economic theory can be founded on indifference curves of ordinal utility functions is based on errors. For the same reasons that the mathematical theory of thermodynamics cannot be founded on ordinal temperature scales, modern economic theory cannot be founded on ordinal data. Economic theory should be corrected using utility scales that enable the powerful weapons of algebra and calculus.

Recent and Upcoming Events

Theory Canada 5

Local Organizer: Viqar Husain

Location: University of New Brunswick, Fredericton

Dates: June 3-6, 2009

Contact Information: Richard MacKenzie

CMS/CSHPM Summer Meeting

Location: Memorial University, St John's

Dates: June 4-8, 2009

www.cms.math.ca/Events/summer09/

International Conference on Nielsen Theory

Local Organizer: Philip Heath

Location: Memorial University, St. John's

Date: June 9-13, 2009

Contact Information: Philip Heath

AARMS Distinguished Lecturer Hans-Juergen Schneider

Organizer: Yuri Bahturin

Locations: Memorial University, June 3-4

Saint Mary's University, June 10

Mount Allison University, June 11

www.aarms.math.ca/events

International Symposium in Statistics (ISS) on Inferences in Generalized Linear Longitudinal Mixed Models

Organizer: Brajendra Sutradhar

Location: Memorial University, St. John's

Date: July 20-22, 2009

Contact Information: Brajendra Sutradhar

Seventh Canadian Computational Chemistry Conference

Local Organizer: Russell Boyd

Location: Dalhousie University

Date: July 20-24, 2009

Contact Information: Russell Boyd

Key Dates

May 31 - June 5	MITACS 2009 Annual Conference
June 3-6	Theory Canada 5
June 4-8	CMS/CSHPM Summer Meeting
June 9-13	International Conference on Nielsen Theory
June 30	Mid term reports due from PDF Supervisors
July 20-22	International Symposium on Statistics (ISS)
July 20-24	Seventh Canadian Computational Chemistry Conference
Sept 15	AARMS autumn call for proposals

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Not everything that counts can be counted, and not everything that can be counted counts.

- Albert Einstein