

IV. GENERAL SCIENTIFIC EVENTS



At the *Second Canada-China Congress*, August 20–23, 2001, in Vancouver, Dr. Tom Brzustowski, President of the Natural Sciences and Engineering Research Council of Canada (NSERC) is shown with the Canadian and Chinese delegations.

Extra-Thematic Scientific Workshops

Its unique structure allows PIMS to move quickly to produce and promote the latest advances in the mathematical sciences and involve PIMS' scientists in them. Rather than centering all its scientific activities around a few topics for an entire academic year, thus tying up resources and limiting participation, PIMS also runs shorter, more intensive programmes to emphasize rapidly developing areas. The flexibility of this structure improves communication between PIMS' members and the larger scientific community, resulting in better trained personnel and establishing vigorous dialogue between the mathematical sciences and the other disciplines. This section describes the extra-thematic scientific activities of the institute. Each workshop has its own organizing committee and they are mostly held in the various PIMS sites. The selection and funding decisions are made by the Scientific Review Panel.

Design Theory: Resolvability and Parallelisms, PIMS-SFU, May 16–18, 2001

Organisers: Brett Stevens & Luis Goddyn (SFU)

Parallel classes and resolvability are two powerful substructures in Combinatorial Design theory. Full and partial parallel classes are necessary for Wilson's Fundamental construction. Recent generalizations of traditional resolvability are an exciting new area of study and application. There have been two recent generalizations of resolvability to Pairwise Balanced

Designs, RRP's where every resolution class is made of blocks of a fixed size and CURDs where every resolution class is isomorphic as a spanning subgraph of the complete graph. Resolvable packings and partial resolutions have been shown to be powerfully applicable to synchronous uni-polar multi-user communication systems. These exciting recent developments prompted this mini workshop.

Speakers:

Charles Colbourn (U. Vermont): *Doubly resolvable Steiner triple systems*

Mark Chateauneuf (U. Waterloo): *Resolving to avoid parallelisms*

Izabella Adamczak (Michigan Technical University): *On the hole-size bound for incomplete block designs*

Myra Cohen (U. Auckland, NZ): *Cluttered Orderings for the Complete Graph*

Peter Danzinger (Ryerson Polytechnic University): *Class-Uniformly Resolvable Designs*

Peter Dukes (Caltech): *New Lower Bounds on the Maximum Number of Mutually Orthogonal Steiner Triple Systems*

Eric Mendelsohn (U. Toronto): *Resolvability and Configurations*

Rolf Rees (Memorial University): *Direct product constructions for resolvable group divisible designs*

Don Kreher (Michigan Technical University): *On PBIBD Designs Based on Triangular Schemes*

Alan Ling (Michigan Technical University)

John Stardom (SFU)

Alex Rosa (McMaster): *Upper Chromatic Index and Specialized Block Colourings of Steiner Triple Systems*

9th Canadian Conference on General Relativity and Relativistic Astrophysics, University of Alberta, May 24–26, 2001

Organisers: C. P. Burgess (McGill), J. Gegenberg (New Brunswick), D. Hobill (Calgary), H. P. Künzle (Alberta) and R. G. McLenaghan (Waterloo).

This was the ninth in a series of meetings, held every two years, designed to bring together researchers in gravitation, relativity, astrophysics, and related fields and to enhance the interaction between the Canadian and wider international research communities in these areas. There were three mornings of plenary talks, two afternoons of contributed talks in parallel sessions and poster presentations.

The conference was held in conjunction with Black Holes III, in Kananaskis, Alberta, in the Canadian Rocky Mountains, May 20–22.

Invited Speakers:

John Baez (UC, Riverside): *New developments in canonical quantum gravity*

Dick Bond (CITA): *Cosmic Parameters from the CMB*

Viqar Hussain (U. New Brunswick): *Dualities and Wilson loops*

Amanda W Peet (U. Toronto): *Recent developments in string theory and applications to black holes*

Eric Poisson (U. Guelph): *Gravitational radiation reaction in strong fields*

Kristin Schleich (UBC): *Topological censorship*

Saul Teukolsky (Cornell): *Numerical simulations of black holes*

Kip S Thorne (Caltech): *Gravitational waves: A status report*

Virginia Trimble (UC, Irvine): *Looking into the potential wells: Observations of compact objects*

S-T Yau (Harvard): *Existence of black holes*

CAIMS Annual Meeting, University of Victoria, June 7–9, 2001

PIMS sponsored two additional sessions at the 2001 Annual Meeting of the Canadian Applied and Industrial Mathematics Society.

Applied Dynamical Systems

Organizer: Florin Diacu (U. Victoria)

Speakers:

William Langford (U. Guelph): *Normal Form Analysis of Nayfeh's Abnormal Resonance*

Jerry Marsden (Caltech): *Dynamical systems, celestial mechanics and space mission design*

James Montaldi (INLN (Nice, Fr) & UMIST (UK)): *Persistence of Relative Equilibria*

Ernesto Perez (U. Pernambuco): *Central Configurations for Charged Problems*

Hildeberto Cabral (Universidade Federal de Pernambuco): *Periodic solutions of perturbations of the Kepler problem*

Carmen Chicone (U. Missouri): *What are the classical equations of motion with radiation reaction taken into account?*

Daniel Offin (Queens University): *Stability of periodic solutions and the variational principle*

Christina Stoica (U. Victoria): *Classical Scattering and Block Regularization*

Mathematical Biology

Organizer: Pauline van den Driessche (Victoria)

Speakers:

Leah Keshet (UBC): *Modelling cell and chemical interactions in Alzheimer's Disease*

Michael Li (U. Alberta): *Mathematical Analysis of the Global Dynamics of a Model for HTLV-1 Infection and ATL Progression*

Mark Lewis (U. Utah): *How predation can slow, stop or reverse a prey invasion*

Mark Kot (U. Washington): *Do Invading Organisms do the Wave?*

Hal Smith (Arizona State University): *Colonization resistance in the gut and microbial surface colonization of bio-reactors*

Gail Wolkowicz (McMaster University): *Mathematical Modeling of Self Cycling Fermentation*

Mary Lou Zeeman (U. Texas, San Antonio): *Modeling the Human Menstrual Cycle*

William Langford (U. Guelph): *Normal Form Analysis of Nayfeh's Abnormal Resonance*

Sally Blower (UCLA): *Live attenuated HIV vaccines: predicting the trade-off between efficacy & safety*

Shigui Ruan (Dalhousie University): *Codimension Two Bifurcations in Ecological and Epidemiological Models*

Designs, Codes, Cryptography and Graph Theory, University of Lethbridge, July 9–14, 2001

Organisers: Wolf Holzmann, Hadi Kharaghani and Jim Liu (University of Lethbridge).

This was the second workshop on Designs, Codes, Cryptography and Graph Theory at the University of Lethbridge. Instructional lectures were held each morning, with afternoon talks on individual papers.

Brian Alspach (U. Regina) gave a series of 3 instructional lectures on vertex-transitive graphs. **Charles Colbourn** (Arizona State) gave a series of 3 instructional lectures on applications of combinatorial designs. **Chris Rodger** (Auburn University) gave a series of 3 instructional lectures on coding theory. **Doug Stinson** (U. Waterloo) gave a series of 3 instructional lectures on the Discrete Logarithm Problem as applied to cryptography. **Vladimir Tonchev** (Michigan Technical University) gave an instructional lecture on combinatorial designs as applied to digital communication. All of the instructional lectures were well-balanced, entertaining and informative, pitched at a level appropriate to non-experts with some discrete mathematical background, yet describing some of the cutting edge of research in these fields. Workshop organisers were extremely fortunate in attracting mathematicians of such eminence in their fields who are also talented expositors of their work.



The Designs, Codes, Cryptography and Graph Theory group.

There were 44 registered participants in the workshop, from 8 countries around the world: Canada, the United States, the United Kingdom, Australia, Italy, Spain, Korea and Iran. Participants included employees of SaskTel and the Department of National Defense, in addition to the academic reg-

istrants. Communication and a collaborative atmosphere were fostered by a session on open problems, as well as much informal discussion during the times available for social activities during the week.

The workshop was an enjoyable, informative and invigorating experience for participants, who left with their understanding of designs, codes, cryptography and graph theory having been both broadened and enriched.

Additional Invited Speakers:

M. Buratti (Università di Perugia, Italy): *Selected Topics on Sharply-Vertex-Transitive Designs*

R. Craigen (U. Manitoba): *Complementary Pairs of Sequences*

G. Hahn (U. Montreal): *Absorbing Sets in Coloured Tournaments*

S. Hedayat (U. Illinois, Chicago): *Adding More Runs to Saturated D-Optimal Resolution III Designs*

Y. Ionin (Central Michigan): *Decomposable Symmetric Designs*

G. B. Khosrovshahi (IPM and Tehran U., Iran): *Some Results on the Existence of Large Sets of t -Designs*

T. Kloks (Royal Holloway, U. London): *Fixed Parameter Complexity*

D. Kreher (Michigan Technological U.): *A Hole-Size Bound for Incomplete t -Wise Balanced Designs*

A. Ling (Michigan Technological U.): *The Existence of Kirkman Squares — Doubly Resolvable $(v; 3; 1)$ -BIBDs*

K. Murty (U. Toronto): *The Number of Words in Certain Non-linear Codes*

R. Rees (Memorial): *On Holes in t -Wise Balanced Designs*

C. Rodger (Auburn U.): *A Very Basic Introduction to Error Correcting Codes, The Graph Theoretical Approach to Convolutional Codes, and Encoding on Compact Discs*

R. Safavi-Naini (U. Wollongong, Australia): *Error and Deletion Correcting c -Secure Codes*

P. Shiue (U. Nevada, Las Vegas): *On the Number of Primitive Polynomials over Finite Fields*

D. Stinson (U. Waterloo): *The Discrete Logarithm Problem: Theory and Cryptographic Applications*

V. Tonchev (Michigan Technical U.): *Perfect Codes and Balanced Generalized Weighing Matrices, and Combinatorial Designs and Digital Communication*

R. Wei (Lakehead U.): *On Cover-Free Families*

H. Williams (U. Manitoba): *Applications of a Numerical Sieving Device*

**International Conference on SCientific
Computation and Differential Equations,
Coast Plaza Hotel, Vancouver,
July 29–August 3, 2001**

Organisers: U. Ascher (chair, UBC), G. Bock (Heidelberg), K. Burrage (Brisbane), A. Iserles (Cambridge), L. Petzold (Santa Barbara) and R. Russell (SFU)

This meeting was concerned with scientific computing involving the numerical solution of differential equations. Numerical techniques in applications were emphasized. These included optimization and optimal control, chemical and mechanical engineering, stochastic differential equations, level-set methods, molecular dynamics, computer graphics, robotics.

The meeting is part of the SCICADE series, the last of which was held in Fraser Island (Australia), August 9–13, 1999. The next meeting is planned for June 30–July 4, 2003, in Trondheim, Norway.

Plenary Speakers:

Lorenz Biegler (Carnegie Mellon): *Dynamic Chemical Process Optimization*

Kevin Burrage (U. Queensland): *An overview of numerical methods for stochastic ordinary differential equations*

Stephen Campbell (North Carolina State): *Optimization and Differential Equations*

Luca Dieci (Georgia Tech): *Some computational problems in dynamical systems*

Leslie Greengard (Courant Institute): *Integral equations and computational engineering*

Thomas Hou (Caltech): *Numerical Solutions to Free Boundary Problems*

Christian Lubich (Universitaet Tuebingen): *Fast convolution for non-reflecting boundary conditions*

Reinout Quispel (La Trobe University, Melbourne): *Geometric Integration of ODEs*

Sebastian Reich (Imperial College, London): *Conservative Methods for Wave and Fluid Dynamics*

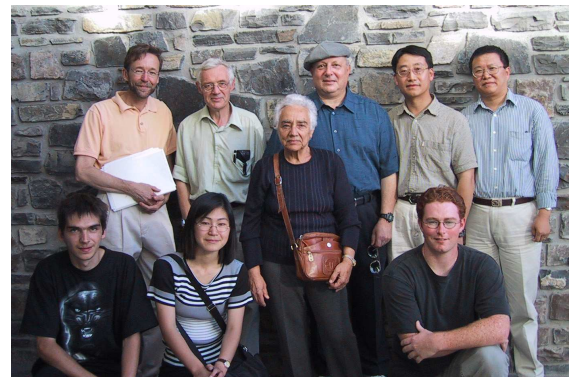
Gustaf Soderlind (Center for Mathematical Sciences, Lund University): *Digital Filters in Adaptive Time-Stepping*

Demetri Terzopoulos (Universities of New York and Toronto): *Differential Equations in Vision, Graphics and Design*

**Aspects of Symmetry on the occasion of
the 60th birthday of Robert Moody,
Banff, AB, August 26–29, 2001**

Organisers: Michael Baake (Universität Greifswald) and Arturo Pianzola (U. Alberta)

Speakers: **James Arthur** (U. Toronto), **Georgia Benkart** (U. Wisconsin), **Stephen Berman** (U. Saskatchewan), **H.S.M. (Donald) Coxeter** (U. Toronto), **Terry Gannon** (U. Alberta), **Victor Kac** (MIT), **Jeffrey Lagarias** (AT&T Labs-Research), **Ian Macdonald** (Oxford), **Kumar Murty** (U. Toronto), **Jiri Patera** (CRM), **Ian Putnam** (U. Victoria), **Peter Slodowy** (Universitat Hamburg), **Louis Solomon** (U. Wisconsin), **Boris Solomyak** (U. Washington), **Efim Zelmanov** (Yale) and **Andrei Zelevinsky** (Northeastern).



Maria's Group (all mathematical children and grandchildren of Maria). Top (l-r): A. Pianzola, R. Moody (U. Alberta), M. Wonenberger (Spain), S. Berman (U. Saskatchewan), K. Liu (UBC), Y. Gao (York). Bottom (l-r): N. Strungaru, J.-Y. Lee, S. Sullivan (U. Alberta).

**Around Group Rings Seminar,
Jasper, Alberta, February 18–21, 2002**

Organisers: Gerald Cliff, Mazi Shirvani and Al Weiss (U. Alberta).

The conference was attended by 48 participants from North America (Canada, US), South America (Brazil), and Europe (Ireland, Italy, Poland, The Netherlands, Belgium, Germany) and Asia (Japan).

The speakers were: Yuri Bakhturin (Memorial and Moscow State), Antonio Giambruno (Palermo), Jairo Goncalves (Sao Paulo), Narain Gupta (Manitoba), Martin Hertweck (Stuttgart), Ted Hurley (Galway), Eric Jespers (Brussels), Alexander Lichtman (Wisconsin-Parkside), Zbigniew Marciniak (Warsaw), Gabrielle Nebe (Ulm), Donald Passman (Wisconsin-Madison), David Riley (Western), Peter Roquette (Heidelberg) and Fernando Szechtman (Waterloo).

A volume of proceedings will appear in the series Resenhas do IME published by the U. of Sao Paulo.



Participants of the Around Group Rings Seminar in Jasper.

Representations of Reductive p-adic Groups, Banff, Alberta, February 21–23, 2002

Organisers: Clifton Cunningham (U. Calgary) and Fiona Murnaghan (U. Toronto)

In February 2002 the Banff Centre hosted a small, focused, and very successful research workshop on Representations of Reductive p-adic Groups, bringing mathematicians from Canada, France, Germany and the US to the future site of the Banff International Research Station.

The workshop was organized around three mathematical themes reflecting recent progress in the field: The construction of types for admissible representations of reductive p-adic groups and applications to character theory; applications of rigid analytic geometry to p-adic group representation theory; results on L-packets.

Speakers and titles are listed below:

Jeffrey Adler (U. Akron): *Supercuspidal character germs for classical groups*

Anne-Marie Aubert (CNRS ENS): *Sheaves on adic spaces for p-adic group representation theory*

Stephen Debacker (Harvard): *Quixotic quests*

Laurent Fargues (Institut de mathématiques de Jussieu): *An introduction to Rapoport Zink spaces and their l-adic cohomology*

David Goldberg (Purdue): *The norm map and consequences*

Jeffrey Hakim (American University): *Supercuspidal Representations Attached to Symmetric Spaces*

Thomas Hales (Pittsburgh): *Motives and Representations of Reductive p-adic Groups*

Chris Jantzen (East Carolina): *Degenerate principal series for even-orthogonal groups*

Henry Kim (Toronto): *Application of Langlands' functorial lift of $SO(2n + 1)$ to $GL(2n)$*

Julee Kim (IAS, Princeton): *Dual blobs and Plancherel formula*

Peter Schneider (Universität Münster): *The algebraic theory of tempered representations*

Matthias Strauch (Universität Münster): *Representations on vanishing cycles, trace formulas and boundaries*

Jiu-Kang Yu (Maryland): *Integral schemes for Moy-Prasad filtrations*

Other participants appearing in the photograph are Peter Campbell (Alberta), Jason Levy (Ottawa) and Loren Spice (Chicago).



The participants of the Representations of Reductive p-adic Groups workshop.

2nd Canadian Conference on Nonlinear Solid Mechanics, SFU, June 19–23, 2002

Organisers: Elena M. Croitoro (Co-Chair, University of Victoria), Cecil Graham (Co-Chair, SFU), R. Choksi (SFU), M. Epstein (U. Calgary), M. S. Gadala (UBC), J. B. Haddow (U. Victoria), T. B. Moodie (U. Alberta), N. Rajapakse (UBC), P. Schiavone (U. Alberta) and D. J. Steigmann (UC, Berkeley).

Canadian Conferences on Nonlinear Solid Mechanics (CanCNSM) provide an international forum for communicating recent and projected advances in various areas of Nonlinear Solid Mechanics and Materials, to assemble researchers working on common themes from complementary perspectives, and to provide an opportunity for direct information exchange among delegates from academia, research laboratories, and industry. The framework of CanCNSM Conferences is truly multidisciplinary.

The plenary speakers were:

E. N. Dvorkin (Centre for Industrial Research, Buenos Aires): *Finite Element Models in the Steel Industry: Modeling of Production Processes*

R. Fosdick (University of Minnesota): *Steady, Structured Shock Waves: Thermoelastic Materials*

P. Podio-Guidugli (University of Rome Tor Vergata): *Concepts and Problems in Dynamic Micromagnetics*

A. P. S. Selvadurai (McGill University): *Second-Order Elasticity for Axisymmetric Torsion: A Spheroidal Coordinate Formulation*

J. R. Willis (University of Cambridge): *Some Recent Developments in the Analysis of Composite Materials*

Americas V Conference, Edmonton, July 7–12, 2002

Organisers: Michael Li (Co-Chair, Alberta), Kening Lu (Brigham Young), Konstantin Mischaikow (Georgia Tech.), James Muldowney (Co-Chair, Alberta) and Jianhong Wu (York).

The Americas Conference in Differential Equations and Nonlinear Dynamics is a biennial series that was established in 1994 as a joint initiative of four major research centres in South and North America:

The Center for Dynamical Systems and Nonlinear Studies (CDSNS) at Georgia Institute of Technology, USA, the Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas (IIMAS) at Universidad Nacional Autónoma de México (UNAM), México, the Instituto de Matemática Pura e Aplicada (IMPA), Brazil, and Fundayacucho, Venezuela, with an initial objective of fostering close collaborations and exchanges among researchers in this scientific field among the four countries.

The series was developed as a forum for the dissemination of scientific accomplishments in the Americas and for the creation of new opportunities for collaboration in dynamical systems. It has grown into one of the major international opportunities in this area. The first four conferences were held in Taxco, México (1994), Aguas de Lindoia, Brazil (1996), Atlanta, USA (1998) and Mérida, Venezuela (2000).

Americas V had 120 participants from 9 Americas countries (Canada, USA, México, Brazil, Venezuela, Colombia, Chile, Argentina and Peru) as well as from Asia and Europe. The conference was dedicated to Professor Shui-Nee Chow (Georgia Tech and University of Singapore) on his sixtieth birthday. Shui-Nee along with a handful of others such as Jack Hale (USA), Gilberto Flores (México) and Hildebrando Rodríguez (Brazil) have been active for many years in the development of scientific exchanges in the Americas especially at the graduate level.

The plenary lectures were delivered by: **Jorge Sotomayor** (Brazil), **Jack Hale** (USA), **Hildebrando Rodríguez** (Brazil), **Mark Lewis** (Canada), **Jianhong Wu** (Canada), **Raúl Manasevich** (Chile), **George Sell** (USA), **Alfonso Castro** (Colombia, USA), **Antonmaria Minzoni** (México), **Jorge Cosío** (Colombia), **Tomas Gedeon** (USA), **Robert Gardner** (USA), **Kening Lu** (USA), **John Mallet-Paret** (USA), **Peter Polacik** (USA), **Yingfei Yi** (USA) and **Hugo Leiva** (Venezuela).

An innovation at this conference was the PIMS Posters at Americas V which was a web-based poster session. A prize of \$1000 for the best graduate student poster was shared by Germán Jesus Lozada Cruz (from Peru, studying for his PhD at Universidade de São Paulo, Brazil) and Horacio Gómez-Acevedo (from México, studying for his PhD at U of

A, Canada). The Selection Jury for the graduate student posters was Raúl Manasevich (Chile), Gilberto Flores (Mexico) and Jianhong Wu (Canada).



Shui-Nee Chow with some of his former PhD students at the Americas V Conference.

Co-Sponsored Computer Science Conferences, Edmonton, July–August 2002

Over a three-week period in July–August 2002, PIMS, the University of Alberta together with the City of Edmonton had the honour of hosting the following eight prominent international conferences.

Each of these conferences represents a field with sophisticated mathematics and fascinating intellectual challenges. In addition, each is addressing useful, important real-world problems.

IDEAS'02, International Database Engineering and Applications Symposium, Edmonton, July 17–19, 2002

An international forum for discussion of the problems of engineering database systems involving not only database technology but the related areas of information retrieval, multimedia, human machine interface and communication. More information can be found on <http://database.cs.ualberta.ca/ideas02>.

CanDB'02, 3rd Annual Canadian Database Workshop, Edmonton, July 22, 2002

A biannual workshop grouping Canadian academics in databases to discuss their current research and re-

search issues. <http://db.cs.ualberta.ca/candb/>

KDD'02, The 8th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining Conference, Edmonton, July 23–26, 2003

The largest international conference in Knowledge Discovery and Datamining, see www.acm.org/sigs/sigkdd/kdd2002/.

CG'02, 3rd International Conference on Computers and Games, U. Alberta, July 25–27, 2002

A major international forum for researchers and developers interested in all aspects of artificial intelligence in computer game-playing. For more information see www.cs.ualberta.ca/cg2002.

AAAI/IAAI'02, 18th National Conference on Artificial Intelligence, 14th Innovative Applications of AI Conference, Edmonton, July 28–August 1, 2002

The pre-eminent conference in Artificial Intelligence, for more information see www.aaai.org/Conferences/National/2002/aaai02.html.

UAI'02, 18th Conference on Uncertainty in Artificial Intelligence, U. Alberta, August 1–4, 2002

The primary international forum for presenting new results on the use of principled methods for reasoning under uncertainty within intelligent systems. For further information see www.cs.ucla.edu/uai02/.

SARA'02, Symposium on Abstraction, Reformulation and Approximation, Kananaskis, August 2–4, 2002

The fifth Symposium on Abstraction, Reformulation and Approximation (SARA) was held at Kananaskis Mountain Lodge, Kananaskis Village, Alberta (Canada), August 2-4, 2002. SARA's aim is to provide a forum for intensive interaction among researchers in all areas of AI with an interest in the different aspects of AR&A techniques.

SARA'02 was the most successful of the five meetings held so far. Fifty-one researchers attended from countries around the globe and twenty of the attendees were Ph.D. students. There were three invited technical talks, 14 technical presentations selected on a peer-review basis, and 14 presentations of "late breaking results" in a lively poster session. The proceedings of the meeting are published under the title *Abstraction, Reformulation and Approximation* as volume 2371 in Springer's LNAI series (Lecture Notes in Artificial Intelligence). Many details about the meeting, including some of the presentations made, are available through the conference's web page: <http://www.cs.ualberta.ca/holte/SARA2002/>

SARA-02 is an affiliate of the American Association for Artificial Intelligence (AAAI), and as such received free advertising through AAAI and a very generous grant for supporting student attendance. NASA's Ames Research Center provided financial support for two of the invited speakers. The University of Alberta provided a conference grant. PIMS handled the pre-registration of all attendees.

The next SARA will be run by Jean-Daniel Zucker of the Universite Paris VI (Pierre & Marie Curie) in Paris, France. For more information, contact Jean-Daniel.Zucker@lip6.fr.

See www.cs.ualberta.ca/holte/SARA2002.

**ISMB'02,
10th International Conference on Intelligent
Systems for Molecular Biology,
Edmonton, August 3–7, 2002**

The largest international conference in bioinformatics and computational biology. For more information see www.cs.ualberta.ca/ismb02/.

**Aperiodic Order, Dynamical Systems,
Operator Algebras and Topology,
U. Victoria, August 4–8, 2002**

Organisers: Jean Bellissard (Toulouse), Johannes Kellendonk (Cardiff), Ian Putnam (Victoria).

The workshop was devoted to recent developments in the area of aperiodic tilings and quasi-crystals. In particular, the participants discussed contributions from diverse fields such as operator algebras, topology, K-theory and foliated spaces, as well as ergodic

theory and diffraction. Experts from these different fields were brought together to share their knowledge.

The speakers and titles were:

Claire Anantharaman-Delaroche (Université d'Orléans): *Amenable groupoids. Examples and applications*

Michael Baake (Universität Greifswald): *Mathematical diffraction theory and model sets*

Marcy Barge (Montana State University): *The topology of one-dimensional tiling spaces*

Laurent Bartholdi (UC, Berkeley): *Tilings and Groupoids Acting on Rooted Trees*

Bob Burton (Oregon State): *A dynamical approach to constructing sequences in the unit cube which are well dispersed*

Thierry Fack (Université de Lyons I): *Introduction to cyclic cohomology*

Franz Gähler (ITAP, Universität Stuttgart): *Modelling Aperiodic Solids: Concepts and Properties of Tilings and their Physical Interpretation and Cohomology of Quasiperiodic Tilings*

Jean-Marc Gambaudo (Université de Bourgogne, Dijon): *Delone sets, tilings and solenoids: from finite translation type to finite isometry type*

Thierry Giordano (U. Ottawa): *Affable equivalence relations and orbit structure of Cantor minimal systems*

Chaim Goodman-Strauss (U. Arkansas): *Triangle Tilings and Regular Productions*

John Hunton (U. Leicester): *New Models and Methods for Tiling Spaces*

Jerry Kaminker (I.U.P.U.I.): *Index theory on foliated spaces and applications.*

Alex Kumjian (U. Nevada, Reno): *Actions of Z^k associated to higher rank graphs*

Jeong-Yup Lee (U. Alberta): *Consequences of Pure Point Diffraction Spectra for Discrete Point Sets*

Daniel Lenz (TU-Chemnitz): *Uniform ergodic theorems on Delone dynamical systems and applications*

N. Christopher Phillips (U. Oregon): *The structure of the C^* -algebras of free minimal actions of Z^d on the Cantor set*

Charles Radin (U. Texas, Austin): *Aperiodicity: lessons from various generalizations*

Lorenzo Sadun (U. Texas): *When size matters: the effect of geometry on $1 - D$ tiling dynamics*

Klaus Schmidt (U. Vienna):

Claude Schochet (Wayne State): *Life After K-theory*

Robert Williams (U. Texas, Austin): *Tiling spaces as Cantor set fiber bundles*

Physics Conference in Honour of K. S. Viswanathan's Contribution to Theoretical Physics, PIMS-SFU, September 19–20, 2002

Organisers: A. DeBenedictis (Langara), P. Matlock (SFU), W. Mueck (Naples), R. Parthasarathy (Chennai, India), R. Rashkov (Sofia, Bulgaria) and Y. Yang (SFU)

The speakers at this conference were:

R. Rashkov (Sofia University, Bulgaria): *On the static/time-dependent tachyon states in vacuum string field theory and their relevance to cosmology*

R. Parthasarathy (Institute of Mathematical Science, India): *Abelianisation of Wilson Loops of Non-Abelian Gauge Theory*

P. Matlock (SFU): *Butterfly Tachyons*

A. Das (SFU)

D. Horvat (U. Zagreb, Croatia): *Hypernuclear Potentials and Axial Vector and Vector Meson Degrees of Freedom*

Y. Yang (SFU)

T. Lee (Kangwon National University, Korea): *String Field Theory and Tachyon Condensation*

G. Semenoff (UBC): *Aspects of AdS/CFT*

Mathematical Prediction of Sound Transmission Through Composite Lightweight Walls Seminar, ATCO Noise Management, Calgary, November 7, 2002

Organisers: Daryl Caswell (University of Calgary), Liming Dai (U. Regina), Dave Nichols and Salem Hertel (ATCO Noise Management).

This seminar was conducted by **David Quirt** and **Alfred Warnock** (Acoustics, Institute of Research in Construction, NRC).

The seminar consisted of six presentations:

Airborne Sound Transmission Through Walls and Floors

Flanking Transmission—Typical performance, and concepts for modelling

Modelling Airborne Sound Transmission Through Walls and Floors

Floor and Wall Assemblies—Using Regression to Predict TL

Predicting Flanking Transmission in Wood Framed Construction

Sound Transmission Through Concrete Block Wall Systems

Co-Sponsored Computer Science Activities, Vancouver, November 16–23, 2002

Local Organizer: Arvind Gupta (MITACS)

Four premier events in theoretical computer science were held at the Delta Pinnacle hotel in Vancouver. In total more than 500 participants came from around the world took part in one or more activities.

Workshop on Algorithms and Models for the Web-Graph, November 16, 2002

Organisers: Bela Bollobas (Memphis and Cambridge), Andrei Broder (IBM T. J. Watson, Chair), Guido Caldarelli (U. di Roma), Fan Chung Graham (UC San Diego), Alan Frieze (CMU), Lee Giles (Penn State), Jon Kleinberg (Cornell), Ravi Kumar (IBM Almaden), Michael Mitzenmacher (Harvard), Christos Papadimitriou (UC Berkeley), Prabhakar Raghavan (Verity Inc), Andrew Tomkins (IBM Almaden) and Eli Upfal (Brown).

The 1st Workshop on Algorithms and Models for the Web-Graph (WAW) took place was very successful. There were 9 contributed talks, 3 invited talks, and a panel, and the final tally was 76 participants, probably half of which were students.

The invited speakers were:

F. Chung, L. Lu and **V. Vu** (UC, San Diego): *Eigenvalues of random power law graphs*

R. Stata (UC, Santa Cruz): *Building Web-scale Web graphs from real data*

M. Mitzenmacher (Harvard): *A brief history of generative models for power law and lognormal distribution*

The event was co-sponsored by MITACS, PIMS, IBM, and Overture.

Foundations of Computer Science Tutorial, November 16, 2002

This tutorial attracted 200 participants. The three speakers that were chosen to present tutorials on topical issues were:

Oded Goldreich (Weizmann Institute of Science): *Zero-Knowledge*

Eva Tardos (Cornell): *Approximation Algorithms*

Salil Vadhan (Harvard): *Randomness Extractors*

IEEE Foundations of Computer Science (FOCS) Conference, November 16–19, 2002

Programme Committee: Dorit Aharonov (Hebrew U), Maria Luisa Bonet (UPC, Barcelona), Bernard Chazelle (Chair, Princeton & NEC Research), Edith Cohen (AT&T Labs), Lance Fortnow (NEC Research), Anna Gal (UT Austin), Venkatesan Guruswami (UC Berkeley & U Washington), Piotr Indyk (MIT), Ravi Kannan (Yale), Claire Kenyon (U Paris-Sud), Yuval Rabani (Technion), Tal Rabin (IBM Research), Omer Reingold (AT&T Labs), Ronitt Rubinfeld (NEC Research), David B. Shmoys (Cornell), Dan Spielman (MIT) and Emo Welzl (ETH, Zürich).

The 43rd Annual Symposium on Foundations of Computer Science (FOCS 2002) had close to 350 participants, much higher than the usual 200-250 at past FOCS conferences. More than 250 papers were submitted out of which 74 were selected for presentation. The highlight was a traditional Chinese banquet at the Imperial Chinese Restaurant.

The IEEE Computer Society Technical Committee on Mathematical Foundations of Computing, MITACS, SFU, PIMS, Microsoft Hewlett-Packard and QCI were all sponsors of the event.

International Symposium on Symbolic and Algebraic Computation (ISAAC), November 20–23, 2002

Organizers: Binay Bhattacharya (SFU), Prosenjit Bose (Carleton), Arvind Gupta (SFU) and Tiko Kameda (SFU).

The 13th Annual International Symposium on Algorithms and Computation (ISAAC) attracted 120 par-

ticipants with substantial representation from Asian countries. There were 54 papers presented from 164 submissions.

The three plenary speakers were:

Luc Devroye (McGill): *Random Tries*

János Pach (Courant Institute): *Monotone drawings of planar graphs*

Nicholas Pippenger (UBC): *Expected Acceptance Counts for Finite Automata with Almost Uniform Input*

The sponsors of ISAAC were MITACS, PIMS, SFU, HP, QCI, and Bajai.

Alberta Conference on Industrial Organization, U. Calgary, November 29–30, 2002

Organisers: Aidan Hollis (U. Calgary) and Andrew Eckert (U. Alberta).

Competition policy is the means through which national governments control the behaviour of firms to ensure that consumers receive a low price and yet investors receive a fair return on their investment. This workshop explored several different aspects of competition policy by drawing on examples from specific industries (such as gasoline and automobiles) in which there is systematic useful data, and by theoretical modelling applied to explore problems such as competition in the patent system and competition in industries with upgrades.

The speakers at this conference were:

John Boyce (U. Calgary): *Novelty and Usefulness in Patents*

Jeffrey Church (U. Calgary): *Competitive Upgrades*

Andrew Eckert (U. Alberta): *Retail Gasoline Price Cycles and Cross-Sectional Price Dispersion*

Robin Lindsey (U. Alberta): *Predatory Pricing in Differentiated Products Retail Markets*

Moez Kilani (Universite du Centre a Sousse, Tunisia): *Price and product line competition in automobile markets*

A Glimpse at 2003

**Special Functions in the Digital Age,
Simon Fraser University,
January 23–24, 2003**

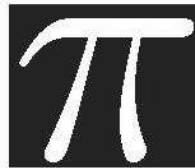
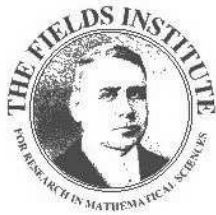
**Graph Theory of Brian Alspach,
Simon Fraser University,
May 25–29, 2003**

**4th Geoffrey J. Butler Memorial
Conference,
University of Alberta
June 17-21, 2003**

**Banach Algebras and their Applications,
University of Alberta
July 27–August 9, 2003**

**Workshop on Optimal Transportation
and Nonlinear Dynamics,
University of British Columbia,
August 11–15, 2003**

**PIMS Sessions at the CMS Winter 2003
Meeting,
Simon Fraser University,
December 6–8, 2003**



National Programme Committee

In 1999 the three Canadian Institutes in the Mathematical Sciences, CRM, Fields and PIMS, initiated a new programme for the support of joint activities in the mathematical sciences. This programme is administered by a National Programme Committee, which makes recommendations to the Directors of the three institutes. The mandate includes:

- Allocating funds provided by the three institutes to support conferences and workshops in the mathematical sciences across Canada. These are primarily activities that fall outside of the main purview of the three institutes, or that would benefit from joint institute funding.
- Allocating funds for the support of activities that are held at the meetings of the three Canadian mathematical science societies: Canadian Mathematical Society (CMS), Canadian Applied and Industrial Mathematical Society (CAMS), Statistical Society of Canada (SSC).
- Assist the National Societies in supporting graduate students to attend these scientific meetings and coordinating annually the organization of three Institute Sessions to be held at the meetings of the Canadian Mathematical Society.
- Coordinating international programmes and other ventures where it is advantageous for the three Institutes to act as a whole.

The six member committee consists of the Deputy Director and one member of the scientific advisory panel at each institute.

A call for proposals is made annually with submitted proposals considered semi-annually (September 15 and March 15). Primary administrative responsibility for the programme rotates between the three Institutes on an annual basis. Submissions are made to the Deputy Director of the institute admin-

istering the programme in that year. In 2001–02 the Committee approved the following slate of scientific activities:

Activities 2001/02:

Novel Approaches to Hard Discrete Optimization

University of Waterloo, April 26–28, 2001

Contact: Henry Wolkowicz (U. Waterloo)

Canadian Annual Symposium on Operator Algebras,

MSRI, Berkeley, California, April 26–May 2, 2001

Contact: George Elliott (U. Toronto)

Black Hole, III Conference

Kananaskis, Alberta May 19–23, 2001

Organizer: A. Frolov (U. Alberta)

Groups, Rings Lie and Hopf Algebras

St. John's, Newfoundland, May 8–June 1, 2001

Contact: Yuri Bahturin (AARMS/Memorial)

PIMS Sessions at the CMS Summer 2001 Meeting

University of Saskatchewan, June 2–4, 2001

Contact: Keith Taylor (U. Saskatchewan)

Summer Meeting 2001 CAIMS

University of Victoria, June 7–9, 2001

Organizer: Reinhard Illner (U. Victoria)

Joint meeting of SSC, IMS and WNAR,

SFU, June 10–14, 2001

Contact: Mary Lesperance (U. Victoria)

International Workshop on Dynamical Systems & their Applications in Biology

Cape Breton, Nova Scotia, August 2–6, 2001

Contact: Shigui Ruan (AARMS/Dalhousie)

13th Canadian Conference on Computational Geometry

University of Waterloo, August 13–15, 2001
 Contact: Therese Biedl (U. Waterloo)

Second Gilles Fournier Memorial Conference

University of Sherbrooke, August 13–15, 2001
 Contact: Tomasz Kaczynski (U. Sherbrooke)

Second Workshop on the Conley Index and Related Topics

University of Sherbrooke, August 15–18, 2001
 Contact: Tomasz Kaczynski (U. Sherbrooke)

Aspects of Symmetry on the occasion of the 60th birthday of Robert Moody

Banff, Alberta, August 26–29, 2001
 Contact: Arturo Pianzola (U. Alberta)

Modelling and Scientific Computation

Fredericton, New Brunswick, Sept. 29–30, 2001
 Contact: Viqar Husain (AARMS/UNB)

CMS Winter 2001 Meeting

York University, December 8–10, 2001
 Contact: Tom Salisbury (York U.)

Western Canada Linear Algebra Meeting

University of Regina, May 10–11, 2002
 Contact: Steve Kirkland (U. Regina)

PIMS Sessions at the SSC Annual Meeting

Hamilton, Ontario, May 26–29, 2002
 Contact:

5th Americas Conference on Differential Equations and Nonlinear Dynamics

University of Alberta, July 07–12, 2002
 Contacts: Michael Li and James Muldowney (U. Alberta)

Formal Power Series and Algebraic Combinatorics 2002

University of Melbourne, July 8–12, 2002
 Organizer: Nantel Bergeron (York U.)

Nonlinear Dynamical Systems with Applications

Memorial U. Newfoundland, July 15–18, 2002
 Organizers: H. Brunner and X. Zhao (Memorial U.)

AARMS Summer School

Memorial University of Newfoundland,
 July 22–August 16, 2002
 Organizer: Hermann Brunner (Memorial U.)

14th Annual Canadian Conference on Computational Geometry (CCCG02)

University of Lethbridge, August 12–14, 2002
 Contact: Stephen Wismath (U. Lethbridge)

International Workshop on Polynomial Identities in Algebra

Memorial University of Newfoundland,
 August 29–September 3, 2002
 Organizer: Hermann Brunner (Memorial U.)

APICS 2002 Special Session on Ring Theory

Mount Allison University, October 18–20, 2002
 Organizers: M. Beattie (Mount Allison U.),
 M. M. Parmenter (Memorial U.) and R. J. Wood
 (Dalhousie U.).

Numerical Analysis, Scientific Computing and Computational Applied Mathematics

St. Francis Xavier University, October 20–21, 2002
 Organizer: Hermann Brunner (Memorial U.)

CMS Winter Meetings

Ottawa, December 8–10, 2002
 Organizer: Graham Wright (CMS)

International Initiatives

Second Pacific Rim Conference on Mathematics, Taipei, Taiwan, January 4–8, 2001

Organizing Committee: Shui-Nee Chow (National U. Singapore), Craig Evans (UC, Berkeley), Fon-Che Liu (Academia Sinica, Taiwan), Masayasu Mimura (Hiroshima U.), Robert Miura (PIMS), Ian Sloan (U. New South Wales) and Roderick S.C. Wong (Liu Bie Ju Centre for Mathematical Sciences, Kowloon).

Approximately 150 mathematicians from Australia, Canada, China, France, Hong Kong, India, Japan, Korea, New Zealand, the Philippines, Singapore, Switzerland, Tajikistan, the United States, and Uzbekistan attended the Second Pacific Rim Conference on Mathematics on January 4–8, 2001 at Academia Sinica in Taipei, Taiwan. The six main themes of the Conference were Combinatorics, Computational Mathematics, Dynamical Systems, Integrable Systems, Mathematical Physics, and Non-linear Partial Differential Equations.

There were 12 one-hour plenary talks, approximately forty 45 minute invited talks, and 55 contributed papers. The plenary talks were excellent with each speaker giving a general background for the audience and then presenting more details later in the talk.

Plenary Speakers:

Ian Affleck (UBC): *Applications of Boundary Conformal Field Theory to Condensed Matter Physics*

Craig Evans (UC Berkeley): *Homogenization and Hamiltonian Dynamics*

Joel Feldman (UBC): *Asymmetric Fermi Surfaces for Magnetic Schrodinger Operators*

Genghua Fan (Academia Sinica, China): *Integer Flows and Circuit Covers*

Alberto Grunbaum (UC Berkeley): *Diffuse Tomography: An Nonlinear Inverse Problem in Medical Imaging*

Song-Sun Lin (Chiao Tung U., Taiwan): *Cellular neural Networks: Pattern and Waves*

Leon Simon (Stanford): *Singularities of Minimal Surfaces and Harmonic Maps*

Stephen Smale (City U, Hong Kong): *On the Mathematics of Learning Theory*

Gilbert Strang (MIT): *Structured Matrices and Good Bases*

Yingfei Yi (Georgia Tech): *A Quasi-Periodic Poincaré's Theorem*

Xuding Zhu (Sun Yat-Sen U., Taiwan): *Circular Chromatic Number and Circular Flow Number of Graphs*

The two plenary speakers from Canada were in the Mathematical Physics Session, along with Izabella Łaba (UBC), Robert McCann (Toronto), and Gordon Semenoff (UBC), who were invited speakers. Brian Alspach (Regina) and Rong-Qing Jia (Alberta) were invited speakers in the Combinatorics and Computational Mathematics Sessions, respectively. The Canadian Representative on the Organizing Committee was Robert Miura (UBC). PIMS provided support for the Canadian participants in the conference.

A committee meeting was held after the Conference Reception to discuss the site of the Third Pacific Rim Conference on Mathematics and was attended by representatives from Australia, Canada, China, Hong Kong, Japan, Taiwan, and the United States. It was proposed that the next Conference be held in Vancouver in the summer of 2004 under the sponsorship of PIMS. This was accepted enthusiastically and unanimously by the committee, as well as by the participants after it was announced at the Conference Banquet.

Second Canada-China Mathematics Congress, UBC, August 20–23, 2001

This initiative builds on the success of the first Congress held at Tsinghua University, Beijing, in August 1999, and is aimed at developing further the collaborative research effort between the two countries. It is sponsored by the 3×3 Canada-China initiative, Centre de Recherches Mathématiques, Fields Institute for the Mathematical Sciences, Pacific Institute for the Mathematical Sciences and MITACS Network of Centres of Excellence.



From left: Robert Moody, Arvind Gupta, Tom Brzustowski, Nassif Ghoussoub, Mark Lewis, Jacques Hurtubise and Hugh Morris at the Canada-China banquet at UBC.

Organizing Committee:

Nassif Ghoussoub (National Math. Coordinator for 3x3 Canada-China Initiative), Dale Rolfsen (PIMS UBC-Site Director), JingYi Chen (UBC), Xiao Jiang Tan (Peking University), Lizhong Peng (Peking University), Dayong Cai (Tsing Hua University), XingWei Zhou (Nankai University), JiaXing Hong (Fudan University).

Officers of the Chinese Delegation

- **Zhi Xing Hou** (President of Nankai University, Director, Math Centre of Chinese Education Ministry)
- **Wang Jie** (Vice director, Chinese NSF)
- **Zhiming Ma** (President, Math Society of China)
- **L.Z. Peng** (Secretary, Math Society of China)
- **K.C. Chang** (Director, Mathematical Centre of Chinese Education Ministry)

Officers of the Canadian Delegation

- **Tom Brzustowski** (President of NSERC)

- **Barry McBride** (Vice-President Academic, UBC)
- **Nassif Ghoussoub** (PIMS Director and National Math. Coordinator for 3x3 Canada-China Initiative)
- **Arvind Gupta** (MITACS program leader)
- **Ken Davidson** (Director, Fields Institute)
- **Jacques Hurtubise** (Director, CRM)

Plenary Speakers:

- **Robert Moody** (U. Alberta), *The World of Aperiodic Order*
- **Catherine Sulem** (Toronto): *The Nonlinear Schrödinger equation: Self-focusing and Wave Collapse*
- **Zhiming Ma** (Academic Sinica), *Some New Results/Directions in Probability Theory*
- **Mark Lewis** (U. Alberta): *Realistic models for biological invasion*
- **Jie Xiao** (Tsinghua), *Hall Algebras and Quantum Groups*
- **Yiming Long** (Director, School of Mathematical Sciences, Nankai U.), *Iteration theory of Maslov-type index with applications to nonlinear Hamiltonian systems*
- **Xiaoman Chen** (Fudan), *On the Structure, K-theory of Roe Algebras*
- **Weiyue Ding** (Director of the Institute of Mathematics, Peking U.), *On the Schrodinger Flow*
- **Gordon Slade** (UBC): *Scaling limits and super-Brownian motion*
- **Ian Putnam** (Victoria): *Operator algebras and hyperbolic dynamical systems*
- **Gang Tian** (MIT): *Kahler-Einstein metrics and geometric stability*
- **Henri Darmon** (McGill): *Periods of modular forms and rational points on elliptic curves*

Session Speakers

I. Algebra and Number Theory:

- **Qingchun Tian** (Peking): *Iwasawa Theory for p-adic Representation*
- **Xingui Fang** (Tsinghua): *On 1-arc Regular Graphs*
- **Weisheng Qiu** (Peking): *Completely Settling of the Multiplier Conjecture for the case of $n = 3p^3$*
- **Yonghui Wang** (Capital Normal): *Some Results on Analytic Number Theory*
- **Jim Carrell** (UBC): *Cohomology and vector fields*

- **Kai Behrend** (UBC): *Equivariant vector fields and the cohomology of stable map spaces*
- **Terry Gannon** (Alberta): *The algebraic combinatorics of rational conformal field theory*,
- **Zinovy Reichstein** (UBC): *Trace forms of Galois field extension in the presence of roots of unity*
- **Jim Bryan** (UBC): *Curves in Calabi-Yau 3-folds and integrality in Gromov-Witten theory*
- **Tony Geramita** (Queens): *Tensor Rank, Secant Varieties of Segre Varieties and Schemes of Fat Points in Multiprojective Spaces*
- **Henri Darmon** (McGill): *Periods of modular forms and rational points on elliptic curves*

II. Mathematical Physics and PDE:

- **Yunbo Zeng** (Tsinghua): *Integral-type Darboux transformations for soliton hierarchy with self-consistent sources*
- **Peidong Liu** (Peking): *Entropy and Iyapunov Exponents for Stationary Random Maps*
- **Chengming Bai** (Nankai): *The Happer's Puzzle Degeneracies and Yangian*
- **Songmu Zheng** (Fudan): *Maximal attractor for some non-linear PDEs*
- **Jiayu Li** (Fudan): *Geometric Analysis*
- **Li Ma** (Tsinghua): *Some new results about mean field equations*
- **Shuxiang Huang** (Shang Dong): *Global Solutions and Asymptotic Behaviour for Reaction-diffusion Equations*
- **Dmitry Jakobson** (McGill): *Some new and old results on eigenfunctions*
- **Jia Quan Liu** (Peking): *Solutions for Quasilinear Elliptic Equations*
- **Shoulin Zhou** (Peking): *On a Singular Equation*
- **Shenghong Li** (Zhejiang): *Second Boundary Problem for Parabolic Equations with Gradient Obstacle*
- **Nassif Ghoussoub** (PIMS and UBC): *On De Giorgi's conjecture in higher dimensions*
- **S. Gustafson** (Courant): *The Dynamics of Vortices*
- **Peter Greiner** (Toronto): *Subelliptic PDEs and Subriemannian Geometry*
- **Gordon Semenov** (UBC): *Boundary states for background independent string field theory*
- **Izabella Łaba** (UBC): *Spectral Measure*
- **Jiquang Bao** (PIMS): *Local Estimates for Special Lagrangian Equations in Dimension Three*
- **Changfeng Gui** (UBC)
- **Peter Orland** (CUNY, visiting UBC) $SU(2) \times SU(2)$

gauging of integrable XXX models

- **John Harnad** (CRM, Concordia): *Duality in Random Matrices and Biorthogonal Polynomials*

III. Probability and Statistics:

- **Guanglu Gong** (Tsinghua): *The annealing of an iterative system*
- **Yongjin Wang** (Nankai): *A probabilistic analysis to a class of non-linear differential equations on unbounded domains and application to superprocesses*
- **Tianping Chen** (Fudan): *Independent, Principal and Minor Component Analysis*
- **Runchu Zhang** (Nankai): *Optimal Blocking of 2^{n-k} and 3^{n-k} Fractional Factorial Designs*
- **Martin Barlow** (UBC): *Geometry and escape times for random walks on graphs*
- **Ed Perkins** (UBC): *Degenerate stochastic differential equations and super-Markov chains*
- **Jonathan Taylor** (McGill): *Geometry of smooth Gaussian fields on manifolds*
- **Remco Van der Hofstad** (Microsoft, Delft U of Tech): *Weak interaction limits for one-dimensional polymers*
- **Peter Hooper** (Alberta): *Statistical recognition methods for protein secondary structure*
- **Harry Joe** (UBC): *Continuous time stochastic processes with given univariate marginals*

IV. Wavelets and their Applications:

- **Xingwei Zhou** (Nankai): *Some results on Wavelet frames*
- **Lizhong Peng** (Peking): *Orthogonal Wavelets on the Heisenberg Group*
- **Heping Liu** (Peking): *The Joint Spectral Multipliers on Heidelberg Groups*
- **Ding-Xuan Zhou** (Hongkong City): *Estimating the Approximation Error in Learning Theory*
- **Hoi Ling Cheung** (Hongkong City): *Supports and Local Linear Independence of Multivariate Refinable Functions*
- **Serge Dubuc** (Montreal): *Convergence in Distribution of Hermite Subdivision Schemes*
- **Bin Han** (Alberta): *Symmetry Properties of Multivariate Refinable Functions*
- **Rong-Qing Jia** (Alberta): *Convergence Rates of Cascade Algorithms*
- **Jean-Marc Lina** (Montreal)
- **Remi Vaillancourt** (Ottawa): *Microlocal Analysis with Tight Multiwavelet Frames*

V. Computational, Industrial & Applied Analysis:

- **Houde Han** (Tsinghua): *The Numerical solutions of Heat Equation on Unbounded Domains*
- **Dayong Cai** (Tsinghua): *Multi-solution of Power System and its Fast Algorithm*
- **Ping Zhou** (St. Francis Xavier): *Explicit Construction of Multivariate Padé Approximants and Some Applications*
- **Jianwei Hu** (Nankai): *Finite Element-Finite Volume Type Method for Nonlinear Convection-Diffusion Problems and its Applications*
- **Yongji Tan** (Fudan): *On some Inverse Problems*
- **Zhongmin Wu** (Fudan): *Quasi interpolation for solving ordinary differential equations*
- **Yangfeng Su** (Fudan): *Some problems on GTH algorithm for Stochastic matrices*
- **Xunjing Li** (Fudan): *On Optimal Control Theory for Infinite Dimensional Systems*
- **Shufang Xu** (Peking): *Numerical Analysis of the Maximal Solution of the matrix equation $X + A^* X^{-1} A = P$*
- **Wenxun Xing** (Tsinghua): *Computational Applied Analysis*
- **Yanren Hou** (Xi' An Jiaotong): *Full Discrete Postprocessing Procedure to the Galerkin Approximation Based on AIMD*
- **Zheng Jian Hua** (Tsinghua): *Hyperbolic metric and its application in complex dynamics*
- **Huaxiong Huang** (York): *Industrial Analysis*
- **M. Fortin** (Laval): *Computational Analysis*
- **Hermann Brunner** (Memorial U. Newfoundland):
- **Jianhong Wu** (York): *Neural Networks for Clustering Large Data Sets in High Dimensions*
- **Brian Seymour** (UBC): *Self-similar flows of immiscible fluids*
- **Rex Westbrook** (U. Calgary): *Sag Bending*
- **Hang Gao** (Northeast Normal U.)
- **Anthony Peirce** (UBC): *Analysis of a novel preconditioner for solving lower rank extracted systems derived from convolution integral equations*
- **Brian Wetton** (UBC): *Industrial and Computational Analysis*
- **Michael Ward** (UBC): *Applied Analysis*
- **Uri Ascher** (UBC): *Multilevel computational techniques for inverse electromagnetic problems in 3D*
- **Steven Ruuth** (SFU): *Strong Stability Preserving (TVD) High Order Time Discretization Methods*

VI. Geometry/Topology:

- **Rick Jardine** (Western Ontario): *Stacks and Homotopy Theory*
- **Maung Min-Oo** (McMaster): *K-area and scalar curvature*
- **Denis Sjerve** (UBC): *On Automorphisms of Belyi Surfaces*
- **Youcheng Zhou** (Zhejiang): *On Moeckel-like boundary of the local Siegel disk*
- **Hui Kou** (Sichuan): *U_k -admitting dcpos and the largest tcc subcategories of domains: two topological problems in Domain theory*
- **Jacques Hurtubise** (CRM/McGill): *Representation with Weighted Frames and Framed Parabolic Bundles*
- **Qing Ding** (Fudan): *The Schrodinger flow and its application in integrable systems*
- **Eckhard Meinrencken** (Toronto): *The Duflo homomorphism for subalgebras*
- **Xiaojiang Tan** (Peking): *On Petri Map for Rank 2 Vector Bundles*
- **Shaoqiang Deng** (Nankai): *Dipolarizations in Lie Algebras and Homogeneous ParaKaehler Manifolds*
- **Jianhua Zheng** (Tsinghua U.): *An application of hyperbolic metric on complex dynamics*
- **Kunio Murasugi** (Toronto): *On double torus knots*
- **K.C. Chang** (Peking): *An Evaluation of Minimal Surfaces*
- **McKenzie Wang** (McMaster): *A Variational Approach for Homogeneous Einstein Metrics*
- **Jinkun Lin** (Nankai): *Some new families of filtration six in the stable homotopy spheres*

VII. Operator Algebra:

- **Shuang Zhang** (Cincinnati): *Purely infinite simple C^* -algebras generated by an isometry and a bilateral shift*
- **Mahmood Khoshkam** (U. Saskatchewan): *On finiteness of the lattice of intermediate subfactors*
- **Allan Donsig** (Nebraska): *Algebraic Isomorphisms of Limit Algebras*
- **Kenneth Davidson** (Waterloo): *Perron-Frobenius Theorem for Completely Positive Maps*
- **Thierry Giordano** (Ottawa)
- **Guanggui Ding** (Nankai): *Some Recent Advances and the Open Problems on Perturbations and Extensions of Isometric operators*
- **Man Duen Choi** (Toronto): *The Norm Estimate for the Sum of Two Matrices*

- **Massoud Amini** (U. Saskatchewan): *Locally Compact Pro-C* -algebras*
- **James Mingo** (Queen's): *Spectral Measures of the Almost Mathieu Operator*
- **Andu Nica** (Waterloo): *Levels of operator-valued R-transforms in free probability*
- **Chris Phillips** (U. Oregon): *Ordered K-theory for crossed products of the Cantor set by free minimal actions of \mathbb{Z}^d*
- **Sam Walters** (UNBC): *The structure of the Fourier transform on the rotation algebra*
- **Qing Lin** (U. Victoria and Ericsson): *Some thoughts from my recent work with Chris Phillips*
- **Jacques Belair**, (Montréal): *Delays and dynamics in neural networks*
- **Meirong Zhang** (Tsinghua): *The rotation number approach to eigenvalues of the one-dimensional p-Laplacian*
- **Wagne Nagata** (UBC): *Reaction-diffusion models of growing plant tips: bifurcations on hemispheres*
- **Weigu Li** (Peking): *Planar Analysis Vector Fields with Generalized Rational First Integrals*
- **Michael Li** (Alberta): *Poincaré's Stability Conditions for Orbital Stability of Almost Periodic Solutions*
- **Christiane Rousseau** (Montréal): *Finite cyclicity of graphics of planar vector fields and Hilbert's 16th problem for quadratic vector fields*
- **Florin Diacu** (Victoria): *On the dynamics of the classical atom*
- **Oleg Bogoyavlenskij** (Queen's): *Lie algebraic invariant meaning of the non-degeneracy conditions in the Kolmogorov - Arnold - Moser (KAM) theory*
- **Victor LeBlanc** (Ottawa): *Forced symmetry breaking for spiral waves*
- **Yun Tang** (Tsinghua): *Singularities of quasi-linear DAE in the setting of real algebraic geometry*

VIII. Mathematical Finance:

- **Abel Cadenillas** (Alberta): *Executive Stock Options with Effort Disutility and Choice of Volatility*
- **Duo Wang** (Peking): *Bifurcation of the ABS model of fundamentals versus trend chasers with positive share supply*
- **John Walsh** (UBC)
- **Junyi Guo** (Nankai): *Compound models and their ruin probabilities for risk processes with correlated aggregate claims*
- **Ali Lari-Lavassani** (Calgary)
- **Uli Haussmann** (UBC): *A Stochastic Equilibrium Economy with Optimal Capacity Expansion*

IX. ODE and Dynamical systems:

- **Weinian Zhang** (Sichuan U.): *Bifurcations of a Polynomial Differential System of Degree n in a Biochemical Reaction*
- **Leon Glass** (McGill): *Dynamics in High Dimensional Models of Genetic Networks*
- **William Langford** (Guelph): *Synchronized Chaos for Authentication and Communication*

Upcoming International Events:

**Pan American Advanced Studies
Institute on Inverse Problems and
Nonlinear Analysis,
Santiago, Chile, January 6–19, 2003**

**3rd Pacific Rim Conference on
Mathematics,
Vancouver, Canada, 2004**

