# SCHEDULED SPEAKERS / CONFÉRENCIERS PRÉVUS

Here is a list of the scheduled speakers, along with the titles of their talks where available. Abstracts for all talks may be found at the following world wide web page after May 1:

http://www.camel.math.ca/CMS/Events/summer98/

Voici les conférenciers prévus, ainsi que les titres de leurs conférences. Les résumés pour tous les conférences seront disponibles à l'adresse Web suivante après le 1er mai :

http://www.camel.math.ca/CMS/Events/summer98/

#### JEFFERY-WILLIAMS LECTURE CONFÉRENCE JEFFERY-WILLIAMS

**George Elliott** (University of Toronto and University of Copenhagen) *C\*-algebras*— *the first fifty years* 

#### KRIEGER-NELSON LECTURE CONFÉRENCE KRIEGER-NELSON

**Catherine Sulem** (University of Toronto) *Nonlinear Schrödinger equation and wave collapse* 

#### PUBLIC LECTURE CONFÉRENCE PUBLIQUE

**F. William Lawvere** (SUNY at Buffalo) Everyday physics of extended bodies or why functionals need analyzing

#### PLENARY SPEAKERS CONFÉRENCIERS PRINCIPAUX

Kenneth R. Davidson (University of Waterloo) Polynomially Bounded Operators

Detlef Gromoll (SUNY, Stony Brook) Metric foliations and nonnegative curvature

**Erwin Lutwak** (Polytechnic University, Brooklyn) *The Minkowski problem after 100 years — lots of new questions* 

Stephen H. Schanuel (SUNY at Buffalo) Objective number theory

#### SPECIAL SESSIONS / SÉANCES SPÉCIALES

### Category Theory / Théorie des catégories

(Org: Richard Wood)

Michael Barr (McGill University) \*-autonomous categories

Marta Bunge (McGill University) Covering toposes with singularities

Peter Freyd (Philadelphia, Pennsylvania)

André Joyal (Université du Québec à Montréal)

**F. William Lawvere** (SUNY Buffalo) *Are homotopy types the same as infinitesimal skeleta?* 

**Michael Makkai** (McGill University) Weak higher dimensional categories: a progress report

Susan Niefield (Union College) Monoidal (bi)categories, bimodules, and adjunctions

Robert Paré (Dalhousie University) Functorial finite differences

Joan Wick Pelletier (York University) Points and simplicity in quantales

Walter P. Tholen (York University) Topology based on maps

Myles Tierney (Rutgers University) Some remarks on torsors

Robert F.C. Walters (Sydney) Bicategories of processes

#### Convex Geometry / Géométrie convexe

(Org: A.C. Thompson)

Lynn Batten (University of Manitoba) Linear binary codes of minimum distance

**András Bezdek (joint work with Ferenc Fodor)** (The Mathematical Institute of the Hungrian Acad. of Sci., Budapest) *On fat polygons and polyhedra* 

**Ted Bisztriczky** (University of Calgary) *A construction for periodically-cyclic Gale* 2*m-polytopes* 

J. Bracho (Nat. University Mexico)

Beifang Chen (Hong Kong University) Minkowski algebra of convex sets

**Robert Dawson** (Saint Mary's University) A generalized face number for regular hyperbolic honeycombs

Boris Dekster (Mount Allison University) A version of the illumination problem

**Robert Erdahl** (Queen's University) *Dicings, zonotopes, and Voronoi's conjecture on parallelohedra* 

**Richard J. Gardner** (Western Washington University) *Discrete tomography - a brief survey of recent results* 

Paul Goodey and Gaoyong Zhang (University of Oklahoma) Inequalities between projection functions of convex bodies

**Eric L. Grinberg** (Temple University and Polytechnic University) *Operational properties of the cosine transform* 

**Peter M. Gruber** (University of Technology, Vienna) *Optimal arrangements of points on Riemannian 2-manifolds and applications* 

**Daniel Klain** (Georgia Technical University) An Euler relation for valuations on polytopes

**Alexander Koldobsky** (University of Texas at San Antonio) *A functional analytic approach to the Busemann-Petty problem on sections of convex bodies* 

**WŁodzimierz Kuperberg** (Auburn University, U.S.A.) *Packing space with congruent convex cones* 

**Ted Lewis** (University of Alberta) An Apollonius theorem for convex sets

Barry Monson (University of New Brunswick) Realizations of regular toroidal maps

Konstantin Rybnikov (Queen's University) Oriented matroids from liftings and stresses

Rolf Schneider (Albert-Ludwigs-Universität) Convex bodies in singular relative positions

Rick Vitale (University of Connecticut) Intrinsic volumes and Gaussian random processes

**Elizabeth Werner and M. Meyer** (Case Western Reserve) *Santalo regions and polytopes* 

Gaoyong Zhang (Polytechnic University) The p-Minkowski problem of polytopes

#### Operator Theory / Théorie des opérateurs

(Org: Heydar Radjavi)

**Hari Bercovici** (Indiana University) *Norm ideal perturbations of commuting self-adjoint operators* 

**Man-Duen Choi** (University of Toronto) *Can an acute-angled cone be embedded in a right-angled cone?* 

**Kenneth R. Davidson** (University of Waterloo) *Nevanlinna-Pick interpolation for non-commutative analytic Toeplitz algebras* 

Allan Donsig (University of Nebraska) Algebraic isomorphisms of limit algebras

**Roman Drnovšek** (University of Ljubljana) On reducibility of semigroups of compact quasinilpotent operators

Douglas Farenick (University of Regina) Extremal matrix states on operator systems

Don Hadwin (University of New Hampshire) Finitely strongly reductive operators

Michael P. Lamoureux (University of Calgary)

Leo Livshits (Colby College, Maine) Locally linearly dependent spaces of matrices

Victor Lomonosov (Kent State University) Density theorems in Banach algebras

Gordon MacDonald (University of Prince Edward Island) Principal-ideal bands

**Laurent W. Marcoux** (University of Alberta) *Unitarily invariant linear spaces in C\*-algebras* 

Matjaž Omladič (University of Ljubljana, Slovenia) Irreducible semigroups with multiplicative spectral radius

**Mihai Putinar and Harold S. Shapiro** (University of California at Santa Barbara) *The Friedrichs operator of a planar domain* 

Peter Rosenthal (University of Toronto) Orbit-reflexivity versus orbit-transitivity

Peter Semrl (University of Maribor, Slovenia) Elementary operators

**Ahmed Ramzi Sourour** (University of Victoria) *Lie isomorphisms between nest algebras* 

#### Relativity and Geometry Relativité et géométrie

(Org: Jacques Hurtubise and Niky Kamran)

**Roger Bielawski** (Max-Planck-Institut fuer Mathematik, Germany) Complete  $T^n$ -invariant hyperkähler 4n-manifolds

Charles P. Boyer (University of New Mexico) Contact geometry and Einstein manifolds

A. Coley (Dalhousie University)

Andrew Dancer (McMaster University) Einstein metrics of cohomogeneity one

**Paul Ehrlich** (University of Florida) *Bochner's technique for compact Lorentzian manifolds (after A. Romero and M. Sanchez)* 

**Conrad Hewitt** (St. Jerome's University, Waterloo) *Three dimensional symmetry groups in cosmology* 

T. Ilmanen (Max Planck Institute, Leipzig)

**Marek Kossowski** (University of South Carolina) *Characteristic classes for pseudo Riemannian manifolds with volume–resolvable metric singularities* 

**Hans-Peter Künzle** (University of Alberta) SU(n)-Einstein-Yang-Mills fields in spherically symmetric and cosmological space-times

R. McLenaghan (University of Waterloo)

Rob Milson (McGill University) Realization of reflection quotients by singular metrics

Maung Min-oo (McMaster University) Mass, scalar curvature and K-area

**B. Tupper** (University of New Brunswick)

John Wainwright (University of Waterloo)

McKenzie Y. Wang (McMaster University) The cohomogeneity one Einstein equations

**Gilbert Weinstein** (University of Alabama at Birmingham)

#### Low Dimensional Topology Topologie en basses dimensions

(Org: Jack Gegenberg)

Steven Braham (Simon Fraser University)

**John M. Bryden** (University of Calgary) 3-Manifold invariants associated to topological quantum field theories

**Steve Carlip** (University of California at Davis) *Einstein manifolds, spacetime foam, and the cosmological constant* 

Lisa Jeffrey (McGill University) Holomorphic bundles and the Verlinde formula

**Nabil Sayari** (Université du Québec à Montréal) *The reducibility of surgered 3-manifolds* and great Scharlemann cycles

**Denis Sjerve** (University of British Columbia) *Genus 0 actions on Riemann surfaces and spherical space forms* 

Peter Zvengrowski (University of Calgary) Diagonal formulae in group cohomology

#### Discrete Mathematics Mathématiques discrètes

(Org: Brian Alspach, Katherine Heinrich and Abraham Punnen)

Jason Brown (Dalhousie University) Roots of chromatic polynomials

Ramaswamy Chandrasekaran (The University of Texas at Dallas) *Nonnegative integer solutions to linear systems* 

Karen L. Collins (Wesleyan University) Symmetry breaking in graphs

**Shannon Fitzpatrick** (University of New Brunswick) *The isometric path number of a graph* 

**Gregory Gutin** (Brunel, The University of West London) *Polynomially searchable sets* of tours for the travelling salesman problem: theoretical and experimental results

Bert Hartnell (Saint Mary's University) The watchman's walk problem

Penny Haxell (University of Waterloo) Packing and covering triangles in dense graphs

Santosh Kabadi (University of New Brunswick) Delta-matroid theory

Richard Nowakowski (Dalhousie University) Multiplicative measures on graphs

Suzanne Seager (Mount Saint Vincent University) Variants of competition graphs

Karen Seyffarth (University of Calgary) Small cycle double covers of line graphs

Nabil Shalaby (Memorial University of Newfoundland) Skolem sequences: survey and new results

### Education / Éducation Mathematicians Teaching Statistics Des mathématiciens qui enseignent la statistique

(Org: Barry Monson and Maureen Tingley)

Robert Dawson (Saint Mary's University) How I learned to teach statistics

**David Hamilton** (Dalhousie University)

Maureen Tingley (University of New Brunswick - Fredericton)

#### Graduate Student Seminar Séminaire pour étudiants diplômés

(Org: Jennifer Mills)

**Xiaomin Bao** (University of Manitoba) A note on the blocking sets in S(3,6,22) and S(4,7,23)

Michelle Davidson (University of Manitoba) Skew k-arc and codes

**Shaun Fallat** (College of William and Mary) *Maximum determinant of* (0,1)-matrices with certain constant row and column sums

Ziuzhan Guo (York University) Remarks on descent theory

Ali Mahvidi (University of Toronto) Invariant subspaces of composition operators

Rubén A. Martínez-Avendaño (University of Toronto) Some spectral properties of Hankel operators

Paddy McCrudden (Macquarie University, Australia) Representations of quantum categories

Mark Weber (Macquarie University, Australia) Characterising strong monoidal functors

**Khalid El Yassini** (Université de Sherbrooke) *A two parameter mixed penalty algorithm for linear programming* 

#### **Contributed Papers / Communications Libres**

Bruce Cload (Brock University) Composition operators and their commutants

**Daniel Turcotte** (Ryerson Polytechnic University) *Propagation of involutive properties of analytic functions with values in complex unital Banach algebras with involutions* 

## **Planning: The Future of the CMS**

A draft proposal, in English, is available on Camel at www.cms.math.ca/Projects/ and comments are invited. Copies can also be obtained from the CMS Executive Office upon request. The final proposal, as approved by the Board of Directors, will be made available in both English and French.