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:

http://www.cms.math.ca/Events/winter98/

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

http://www.cms.math.ca/Events/winter98/

COXETER-JAMES LECTURE
CONFÉRENCE COXETER-JAMES

Henri Darmon (McGill University) *Recent progress in the theory of elliptic curves*

DOCTORAL PRIZE LECTURE
CONFÉRENCE DU PRIX DOCTORAL

Yuri Berest (University of California, Berkeley) *Lacunae for hyperbolic differential operators with variable coefficients*

PLENARY SPEAKERS
CONFÉRENCIERS PRINCIPAUX

Miklos Csörgo (Carleton University) *Random walking around financial mathematics*

Z. Füredi (University of Illinois at Urbana / Inst. Hungarian Acad. Sci.) *Lotto, football pool and other covering radius problems*

W. Goldman (University of Maryland) *Topology and dynamics of moduli spaces of geometric structures on surfaces*

Donal O'Shea (Mt. Holyoke College) *The glory and perversity of us*

PUBLIC LECTURE
CONFÉRENCE PUBLIQUE

H.S.M. Coxeter (University of Toronto) *The Descartes circle theorem and Fibonacci numbers*

SPECIAL SESSIONS / SÉANCES SPÉCIALES

Algebraic Geometry / Géométrie algébrique
(Org: P. Milman)

Fedya Bogomolov (NYU Courant Institute) *On the fundamental groups and universal coverings of complex projective surfaces and symplectic fourfolds*

Andrew Hwang (University of Toronto) *Construction of Circle-Invariant Kahler Metrics*

Lisa Jeffrey (University of Toronto) *The Verlinde formula for moduli spaces of parabolic bundles*

Askold Khovansky (University of Toronto) *Algebraic Geometry and Geometry of convex polyhedra*

Donal O'Shea (Mt. Holyoke College) *Limits of tangent spaces to real surfaces*

Evgenii Shustin (Tel-Aviv University) *Asymtotically proper bounds in the geometry of equisingular families of curves*

Yosef Yomdin (Weizmann Institute) *A tractable problem of the way (hopefully) to counting limit cycles of polynomial vector fields*

Discrete Geometry / Géométrie discrète
(Org: Robert Erdahl, Marjorie Senechal, Walter Whiteley)

V. Alexandrov (University of Moscow) *Sufficient conditions for the extendibility of an N-th order flex of polyhedra*

Valery Alexeev (University of Georgia) *Families of algebraic varieties associated with cell decompositions*

Pau Atela (Smith College) *Periodicity in geometric dynamical models in Phyllotaxis*

Lynn Batten (University of Manitoba) *Blocking sets and security*

Margaret Bayer (University of Kansas) *Eulerian partially ordered sets*

András Bezdek (Auburn University) *A Sylvester type theorem on circles*

Karoly Bezdek (University of Budapest) *On a stronger form of Rogers' lemma and the minimum surface area of Varoni cells in unit ball packings*

T. Bisztriczky (University of Calgary) *A signature theorem for unifrom oriented matroids*

Jin-Yi Cai (University of Buffalo) *A new transferenece theorem in geometry of numbers with applications to Ajtai's connection factor*

R. Connelly (Cornell University) *Holes in a membrane: tension percolation*

H.S.M. Coxeter (University of Toronto) *Whence does an ellipse look like a circle?*

Balazs Csikos (Eötvös University, Budapest) *Some results around the Hadwiger-Knesar-Poulsen conjecture*

Ludwig Danzer and Gerrit van Ophuysen (University of Dortmund) *A species of planar triangular tilings with inflation factor* $\sqrt{-\tau}$

Robert Dawson (Saint Mary's University) *What Shape is a Loaded Die?*

Michel Deza and Mikhail Shtogrin (Ecole Normale Sup., Paris) *Embedding of regular tilings and star-honeycombs*

Robert Erdahl (Queen's University) *Voronoi's hypothesis on perfect domains*

Ferenc Fodor (Auburn University) *Large polygons in convex sets and polygons with large perimeter*

Deborah Franzblau (CUNY/College of Staten Island) *Generic rigidity of molecular graphs*

Christopher Gold (Laval University) *Voronoi methods in geomatics – the importance of the spatial model*

Chaim Goodman-Strauss (University of Arkansas) *Addressing and substitution tilings*

Timothy Havel (Harvard University) *The role of tensegrity in distance geometry*

Donald Jacobs (Michigan State University) *Graph rigidity: Applications of material science and proteins*

Gábor Kertétz (Eötvös Loránd University) *Dido problem on planes of constant curvature*

Wlodzimierz Kuperberg (Auburn University) *Covering the cube with equal balls*

Barry Monson (University of New Brunswick) *Realizations of regular abstract polytypes*

Konstantin Rybnikov (Queen's University) *On traces of d-stresses in the skeletons of lower dimensions of homology manifolds*

Idzhad Sabitov (Moscow State University) *Solution of polyhedra*

Peter Schmitt (Universität Wien) *The versatility of (small) sets of prototiles*

I. Talata (University of Budapest) *On translative coverings of a convex body with its homothetic copies of given total volume*

Anke Walz (Cornell University) *The Bellows Conjecture in dimension four*

Walter Whiteley (York University) *Constraining a spherical polyhedron with dihedral angles*

EDUCATION I/ ÉDUCATION I IDENTIFYING AND OVERCOMING BARRIERS TO TEACHING AND LEARNING MATHEMATICS AT UNIVERSITY/ IDENTIFIER ET VAINCRE LES OBSTACLES À L'ENSEIGNEMENT ET L'APPRENTISSAGE DES MATHÉMATIQUES À L'UNIVERSITÉ

(Org: Morris Orzech and Grace Orzech)

Ed Barbeau (University of Toronto) *The teacher as coach*

William Byers (Concordia University) *Revealing the inner mathematician*

Morris Orzech (Queen's University) *Addressing student difficulties specific to linear algebra*

Tom Rishel (Cornell University) *Teaching and job initiatives for graduate programs in mathematics*

Martha Siegel (Towson University)

Keith Taylor (University of Saskatchewan) *The math readiness project at the University of Saskatchewan*

EDUCATION II/ ÉDUCATION II TEACHING MATHEMATICS – WHY WE DO WHAT WE DO IN THE CLASSROOM?/ L'ENSEIGNEMENT DES MATHÉMATIQUES – POURQUOI FAIT-ON CE QU'ON FAIT EN CLASSE?

(Org: William Higginson, Morris Orzech and Grace Orzech)

George Gadanidis (Durham Board of Education) *If Piaget was a math teacher — Theoretical images, classroom practice and the power of students' minds*

William Higginson (Queen's University) *Having, knowing, and being: some fundamental questions about mathematics teaching*

Lynn McAlpine and Cynthia Weston (McGill University) *How six outstanding math professors use reflection to improve their teaching*

Pat Rogers (York University) *The importance of why: encouraging students to reflect*

Nathalie Sinclair (Queen's University) *Romancing powerful mathematical ideas*

Extremal Combinatorics / Combinatoire extrémale

(Org: D. de Caen)

Richard Anstee (University of British Columbia) *Small forbidden configurations*

Jason Brown (Dalhousie University) *The inducibility of complete bipartite graphs*

Ralph Faudree (University of Memphis) *Anti-Ramsey Colorings in several rounds*

David Fisher (University of Colorado) *The minimum number of triangles in a graph*

Jerrold Griggs (University of South Carolina) *Extremal graphs with bounded densities of small subgraphs*

Penny Haxell (University of Waterloo) *Integer and fractional packings in dense graphs*

Felix Lazebnik (University of Delaware) *On a class of algebraically defined graphs*

Laszlo Székely (University of South Carolina) *Some new Erdös-Ko-Rado type problems*

Bing Zhou (Trent University) *Extremal graphs related to star chromatic number and fractional chromatic number*

GRADUATE STUDENT SESSION SÉANCE POUR ÉTUDIANTS DIPLÔMÉS

(Org: David Gregory)

Leo Butler (Queen's University) *A new class of homogenous manifolds with Liouville-integrable geodesic flows*

Leo Creedon (University of Alberta) *Constructing free groups in modular group algebras*

Mark DeFazio (York University) *The behaviour of the complex zeros of the Laguerre polynomials*

Jody Esmonde (McGill University) *Parametric solutions to the generalized Fermat equation*

Shaun Fallet (William and Mary University) *Multiplicative principal minor inequalities for totally nonnegative matrices*

Andrei Gagarin (University of Manitoba) *Characterizations of (α, β)-polar graphs by forbidden induced subgraphs*

Malcolm Harper (McGill University) *A family of Euclidean rings containing $Z\left[\sqrt{14}\right]$*

Yu-Ru Lui (Harvard University) *The Turán sieve and probabilistic Galois theory*

David McKinnon (University of California, Berkeley) *An arithmetic Bézout theorem*

Satya Mohit (Queen's University) *The ABS-Conjecture and bounds for the order of the Tate-Shafarevich group*

Daniel Piché (University of Waterloo) *Wavelet compression on fractal tilings*

Philip Saidak (Queen's University) *On zero-free regions of the zeta function*

Gregory Smith (University of California, Berkeley) *Computing global extension modules*

Sarah Sumner (Queen's University) *Investigating transcendence in the field of p-adic numbers*

Drew Vandeth (McQuarrie university, Australia) *Transcendence of the values of generalized Mahler function*

MATHEMATICS ON THE INTERNET MATHÉMATIQUES SUR INTERNET

(Org: June Lester, Nathalie Sinclair and Malgorzata Dubiel)

Bill Casselman (University of British Columbia) *Colour, animation, interaction – the next generation of electronic articles*

Stan Devitt (Waterloo Maple) *MathML support for defining notation – an essential step towards live math on the web*

Stan Devitt (Waterloo Maple) *The Relationship between OpenMath and MathML*

Nick Jackiw (KCP Technologies) *JavaSketchpad: Taking Dynamic Geometry on-line*

Loki Jörgenson (CECM) *The CMS journals online: A study in digital publishing*

Robert Miner (WebEQ) *Putting math on the Web*

Number Theory/ Théorie des nombres

(Org: Ram Murty, Noriko Yui)

Amir Akbary (Concordia University) *On the distribution values of symmetric square L-functions in the half plane* $Re(s) > \frac{3}{2}$

Henri Darmon (McGill University) *Modularity of hypergeometric abelian varieties*

Chantal David (Concordia University)

Jacek Fabrykowski (University of Manitoba)

G. Frei (Laval University) *On the discovery of the reciprocity law by Artin*

Eyal Goren (Corcordia & McGill University, CICMA) *Stratifications of moduli spaces and modular forms*

C. Greither (University of Laval) *On Brumer's Conjecture*

James Huard (Canisius College, Carleton University) *An arithmetic reciprocity relation of Liouville type and applications*

Hershy Kisilevsky (Concordia University) *Rank of* $E(K)$ *for cyclic cubic extensions* $K/\mathbf{Q}$

Manfred Kolster (McMaster University) *Higher relative class number formulas*

Arne Ledet (Queen's University) *Some small 2-groups as Galois groups*

Claude Levesque (University of Laval) *Explicit solutions of a family of Thue diophantine equations*

Kumar Murty (University of Toronto) *Zeros of Dedekind zeta functions in towers of fields*

Werner Nowak (University of Austria) *Large convex domains sometimes contain more lattice points than we would expect*

Yiannis Petridis (McGill University) *Zeros of the Riemann Zeta function and central values of the L-series of holomorphic cusp forms*

Gael Rémond (University of Ottawa) *Theta heights and Kodaira construction*

Damien Roy (University of Ottawa) *Criteria of algebraic independence and approximation by hypersurfaces*

Gary Walsh (University of Ottawa) *Solving families of quartic equations*

Hugh Williams (University of Manitoba) *Computer verification of the Ankeny-Artin-Chowla conjecture for all* $p < 5.10^{10}$

Kenneth Williams (Carleton University) *Values of the Dedekind eta function at quadratic irrationalities*

Operator Algebras/ Algèbre d'opérateurs

(Org: James Mingo)

Berndt Brenken (University of Calgary) *Endomorphisms of finite direct sums of* I_∞ *factors*

Ken Davidson (University of Waterloo) *Principal bimodules of nest algebras*

George Elliot (University of Toronto) *An abstract Brown-Douglas-Fillmore absorption theorem, II*

Thierry Giordano (University of Ottawa) *Ergodic theory and dimension G-spaces*

Daniel Kucerovsky (Fields Institute, University of Toronto) *An abstract Brown-Douglas-Fillmore absorbtion theorem, I*

Michael Lamoureux (Universtiy of Calgary) *Crossed product algebra constructions*

A. Nica (University of Waterloo) *Some minimization problems for the free analogue of the Fisher information*

John Phillips (University of Victoria) *Spectral flow and index in bounded and unbounded θ-summable Fredholm modules*

Jack Spielberg (Arizona State University) *A new look at C*-algebras of infinite graphs*

Sam Walters (University of Northern British Columbia) *K-theory on non commutative spheres arising from the Fourier automorphism*

Probability Theory/ Théorie des probabilités
(Org: Miklos Csörgo)

Siva Athreya (Fields Institute) *Existance of positive solutions satisfying the boundary Harnack principle for a semi-linear Dirichlet problem*

M. Claude Belisle (Université Laval) *The hit-and-run sampler*

David Brillinger (University of California, Berkeley) *Some aspects of the motion of particles described by stochastic differential equations*

Murray D. Burke (University of Calgary) *Model checking and estimation: A large sample approach*

Colleen D. Cutler (University of Waterloo) *Scaling structures, chaos, and determinism in time series*

Andre R. Dabrowski (University of Ottawa) *A unified approach to fast teller queues and ATM*

Eric Derbez (McMaster University) *Generating functions and integrated super Brownian excursion (ISE)*

Shui Feng (McMaster University) *The behaviour of some degenerate diffusions near boundary under large deviations*

Rene Ferland (Université du Québec à Montréal) *Propagation of chaos: from Physics to Finance*

Antonia Foldes (The College of Staten Island, CUNY) *About the local time of random walk and Brownian motion*

Genevieve Gauthier (École des Hautes Études Commerciales) *Service de l'enseignement des methodes quantatives de gestion*

Edit Gombay (University of Alberta) *Correcting some limit theorems about the likelihood ratio*

Lajos Horvath (University of Utah) *Best approximations for bootstrapped processes with applications*

Gail Ivanoff (University of Ottawa) *Set-Indexed Martingales*

Mike Kouritzin (University of Alberta) *Parabolic equations with random coefficients*

Reg Kulperger (University of Western Ontario) *Empirical processes and tests of independence*

Brenda MacGibbon (Université du Québec à Montréal) *On statistical minimax estimation and principal Eigenfuctions of the Laplacian*

Neal Madras (York University) *In search of faster simulations*

Don L. McLeish (University of Waterloo) *Estimating parameters of financial time series using highs and lows*

Majid Mojirsheibani (Carleton University) *Combined estimation and probabilistic classification*

Bruno Remillard (Université du Québec à Trois-Rivières) *Empirical Processes Based on Pseudo-Observations*

Pál Révész (Math. Inst. Hung. Acad Sci.) *Critical branching Weiner process*

Jeffrey S. Rosenthal (University of Toronto) *The mathematics of Merkov chain Monte Carlo algorithims*

Tom Salisbury (York University) *The complement of the planar Brownian path*

Byron Schmuland (University of Alberta) *Rademacher's theorem on configuration space*

Qi-Man Shao (University of Oregon) *Gaussian correlation conjecture and small ball probabilities*

Zhan Shi (Université Paris VI) *The maximum of the uniform emprical process*

Gordon Slade (McMaster University) *The scaling limit of the incipient infinite cluster in high-dimensional percolation*

Chistopher G. Small (University of Waterloo) *The analysis of random shapes*

Barbara Szyszkowicz (Carleton University) *An Interplay of weighted approximations and change-point analysis*

Keith Worsley (McGill University) *The geometry of correlation fields, with an application to functional connectivity of the brain*

Hao Yu (University of Western Ontario) *Weighted Kolmogorov-Smirnov test of stock return distributions*

Ricardas Zitikis (Carleton University) *The Vervaat, Lorenz and some other related processes of probability and mathematical statistics in weighted metrics*

Topology - 4 Sub-sessions/ Topologie - 4 sous-sessions
(Org: Eddy Campbell)

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1) Differential Geometry and Global Analysis Géométrie differentielle et analyse globale
(Org: Muang Min-Oo, McKenzie Wang)

Igor Belagradek (McMaster University) *Pinching and Pontrjagin classes*

Christoph Böhm (McMaster University) *Inhomogenous Einstein metrics on spheres*

Jeffrey Boland (McMaster University) *Magnetic fields on negatively curved manifolds*

Virginie Charette (University of Maryland) *Properly discontinous actions of free groups on Minkowski space*

Jingyi Chen (University of British Columbia) *Triholomorphic curves and complex ASD connections*

Ailana Fraser (Stanford University) *On the free boundary variational problem for minimal disks*

Mike Gage (University of Rochester) *Remarks on B. Süssman's proof of the Banchoff-Pohl inequality*

Miroslav Lovric (McMaster University) *Multivariate normal distributions parametrized as a Riemannian symmetric space*

Mohan Ramachandran (SUNY)

Patrick Ryan (McMaster University) *Real hypersurfaces in complex space forms*

Patrice Sawyer (Laurentian University) *Ghostly symmetric spaces*

Alina Stancu (Courant Institute) *Asymptotoic behaviour of a crystalline evolution*

John Toth (McGill University)

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2) Homotopy Theory/Théorie de l'homotopie
(Org: Lisa Langsetmo, Jim Shank)

Dan Christensen (Johns Hopkins University) *Phantom maps: all or nothing*

Fred Cohen (University of Rochester) *On stunted projective spaces*

Gustavo Granja (MIT) *On self maps of HP^n*

Steve Halperin (University of Toronto) *The homotopy Lie algebra of a finite complex*

Philip Heath (Memorial University) *Fibre techniques in Nielsen perioidic point theory*

Barry Jessup (University of Ottawa) *Estimating the rational of LS-category of elliptic spaces*

Brenda Johnson (Union College) *Constructing and characterizing degree n functors*

Keith Johnson (Dalhousie University) *Elliptic homology cooperations*

Sadok Kallel (University of British Columbia) *The homology structure of free loop spaces*

Kathryn Lesh (University of Toledo) *Progress toward a partial splitting of E_2 in the UASS for SO*

Gaunce Lewis (Syracuse University) *Recent results on Mackey functors for a compact Lie group*

John Martino (University of Western Michigan) *A Minami-Webb formula for compact Lie groups*

Joe Neisendorfer (Rochester University) *James-Hopf invariants, Anick's spaces, and decompositions of the double loops on a Moore space*

Stewart Priddy (Northwestern University) *Decompsing products of classifying spaces*

Charles Rezk (Northwestern University) *A model for the homotopy theory of homotopy theory*

Laura Scull (University of Chicago) *Rational S^1-equivalent homotopy theory*

Paul Selick (University of Toronto) *Natural decompositions of loop suspensions and tensor algebras*

Stephen Theriault (MIT) *Homotopy exponents for certain mod-$2(r)$ Moore Spaces*

3) Set Theoretic Topology/Topologie des ensembles
(Org: Juris Steprans, Steve Watson)

Murray Bell (University of Manitoba) *Cardinal functions of centered spaces*

Maxim Burke (University of Prince Edward Island) *Continuous functions which take a somewhere dense set of values on every open set*

Krzysztof Cielsielski (West Virginia University) *Each Polish space is cocompactly quasimetrizable*

Wistar Comfort (Wesleyan University) *Continuos cross sections on Abelian groups equipped with a Bohr Topology*

Ilijas Farah (York University) *Exp*(N^*) *need not be an* N^**-image*

Douglas Grant (University College of Cape Breton) *Alternative universes: the role of set theory in topological algebra*

Gary Gruenhage (Auburn University) *More on alpha-Toronto spaces*

Melvin Henriksen (Harvey Mudd College) *Embedding a ring of continuous functions in a regular ring; preliminary report*

James Hirschorn (University of Toronto) *Towers of measurable functions*

Valery Miskin (Kemerovo State University) *Set ideals everywhere*

Justin Moore (University of Toronto) *A linearly fibered Souslinean space under Martin's axiom*

Eduardo Santillan (UNAM - Mexico) *Topological properties of removable singularities for analytic functions*

Alexander Shibakov (Tennessee Technological University) *Controlling sequential order in topological vector spaces*

Slawomir Solecki (Indiana University) *Polish group actions and measures*

Paul Szeptycki (Ohio University) *Normality and property (a)*

Andrzej Szymanski (Slippery Rock University of Pennylvania) *On a class of special Namioka spaces*

Franklin Tall (University of Toronto) *The topology of elementary submodels*

Murat Tuncali (Nipissing University) *On Generalizations of the Hahn-Mazurkiewicz Theorem*

Ed Tymchatyn (University of Saskatchewan) *Measures and topological dynamics on Menger manifolds*

Grant Woods (University of Manitoba) *Recent Developments in Rings of Continuous Functions*

Eduardo Santillan (York University, Cinvestav, Mexico) *Topological properties of removable singularities for analytic functions*

4) Symplectic/Low Dimensional Topology Topologie en basses dimension/ Topologie symplectique
(Org: Steve Boyer, Jacques Hurtubise, François Lalonde)

Steve Boyer (Université de Québec à Montréal) *Norm duality and hyperbolic 3-manifolds*

Jacques Hurtubise (McGill University, CRM) *Framed parabolic bundles*

François Lalonde (Université de Québec à Montréal, CRM) *Applications of Quantum cohomology to some fundamental problems of dynamics*

Yuriy Shkolnikov (University of Calgary) *A generalisation of Whitney's trick in dimension 4, borromeanism and related questions*

Jennifer Slimowitz (Université de Québec à Montréal) *Length minimizing geodesics in the group of hamiltonian diffeomorphisms*

Xingriu Zhang (SUNY Buffalo) *On simple points of the character variety of a cusped hyperbolic 3-manifold*

Universal Algebra and Multiple-Valued Logic Algèbre universelle et logique multiple valeurs
(Org: L. Haddad)

Clifford Bergman (Iowa State University) *Complexity of some Problems in Universal Algebra*

Jie Fang (Simon Fraser University) *Ockham algebras with pseudocomplementation*

Ibrahim Garro (University of Toronto) *An application of non-well founded sets to infinite valued infinitary propositional calculus*

George Grätzer (University of Manitoba) *Independence Theorems for automorphism groups and congruence lattices of lattices*

Jennifer Hyndman (University of Northern British Columbia) *Dualizable is not the same as fully dualizable*

Benoit Larose (Concordia University) *Projective graphs and Hedetnyemi's conjecture*

Jonathan Leech (Westmount College) *Noncommutative lattices: foundational issues and recent results*

Robert Quackenbush (University of Manitoba) *Varieties of binary linear codes*

Ivo Rosenberg (Université de Montréal) *Completeness for uniformly delayed circuits*

Ross Willard (University of Waterloo) *Independence of the linear commutator*

CONTRIBUTED PAPERS COMMUNICATIONS LIBRES

(Org: L. Haddad)

Alexandru Gica (University of Bucharest) *A conjecture which implies the theorem of Gauss-Heegner-Stark-Baker*

Igor Nikolaev (Université de Montréal) *3-manifolds, foliations and* $K_0(C(X) \rtimes Z)$

Dieter Ruoff (University of Regina) *Solution of a Non-Euclidean convexity problem*

Andrew Toms (Fields Institute, University ofToronto) *Perforated* K_0-*groups of* C^*-*algebras*