

## MONDAY, AUGUST 31 – CENTRO CULTURAL MATUCANA 100

9:30-11:00	Registration
10:30-11:00	Coffee
11:00-11:50	<b>Manuel del Pino</b> "On a conjecture by De Giorgi in large dimensions"
12:00-14:00	Lunch
14:10-15:00	<b>Juan Maldacena</b> "The gauge-gravity duality"
15:10-16:00	<b>Herbert Clemens</b> "Exploring the Hodge conjecture"
16:00-16:30	Coffee Break
16:30-17:20	<b>Artur Avila</b> "Dynamics of renormalization operators"
17:30-19:30	OPENING and PRIZE CEREMONY RECEPTION

## TUESDAY, SEPTEMBER 1 – UNIVERSIDAD DE SANTIAGO DE CHILE

TIME	PLACE	TITLE	SPEAKER
8:30 -9:40	Aud. Froemel	Probabilistic and dynamical aspects of left-orderable groups	<b>Andrés Navas</b>
	Aud. Quezada	Imaging with waves in homogeneous and random media	<b>Josselin Garnier</b>
9:45 – 10:55	Aud. Froemel	Orbifolds, Fields Theories and Strings: A Mathematical Perspective	<b>Ernesto Lupercio</b>
	Aud. Quezada	Self-similar Groups, Dynamical Systems and Algebras	<b>Laurent Bartholdi</b>
10:55 – 11:10	<b>Coffee Break</b>		
11:10 – 11:40	Aud. Froemel	Isotopy problems for manifolds with positive curvature	UMALCA Special Mention : <b>Fernando Codá Marques</b>
11:45 - 12:15	Aud. Froemel	On the Alekseevskii's conjecture for Einstein homogeneous manifolds	UMALCA Special Mention : <b>Jorge Lauret</b>
12:15-12:30	Aud. Froemel	Actividad del CIMPA en América Latina	<b>Andrea Solotar</b>
12:30 – 14:00	<b>Lunch</b>		
14:00 - 14:50	Aud. Froemel	Complex singularities and contact topology	<b>Patrick Popescu-Pampu</b>
	Aud. Quezada	Macroscopic sensitivity to localized defects in a class of growth models	<b>Maria Eulália Vares</b>

<b>15:10 16:00</b>	Aud. Froemel	Fractal geometry, Dynamical Bifurcations and Diophantine Approximations	UMALCA Prize Lecture : <b>Carlos Gustavo Moreira</b>
<b>16:00 – 16:20</b>	<b>Coffee Break</b>		
<b>16:20 – 16:50</b>	Aud. Froemel	Global dominated splitting or zero Lyapunov exponent almost everywhere	Dynamical Systems: <b>Jairo Bochi</b>
	Room A	On Heisenberg-like supergroups	Lie Theory: <b>Adolfo Sanchez Valenzuela</b>
	Room B	Einstein Metrics, Complex Surfaces, and Symplectic 4-Manifolds	Geometry: <b>Claude Le Brun</b>
	Room C	Very fast methods and preconditioners for banded matrices and PDEs on irregular domains	Numerical Analysis: <b>Daniel B. Szyld</b>
	Room D	Projective splitting methods for the sum of monotone operators and the hybrid proximal-projection method	Optimization & Control: <b>Benar Svaiter</b>
<b>17:00 - 17:30</b>	Aud. Froemel	Positive topological entropy for generic geodesic flows	Dynamical Systems: <b>Gonzalo Contreras</b>
	Room A	Matrix valued special functions	Lie Theory: <b>Juan Alfredo Tirao</b>
	Room B	The hyperbolic lattice point problem	Geometry: <b>Roberto Miatello</b>
	Room C	Solving Efficiently Robust Semiimplicit Discretizations of the Immersed Boundary Method	Numerical Analysis: <b>Hector D. Ceniceros</b>

	Room D	Characterization of Fractured Oil Reservoirs with Global Optimization	Optimization & Control: <b>Susana Gomez</b>
<b>17:40 - 18:10</b>	Aud. Froemel	Non-hyperbolicities	Special Invitation: <b>Lorenzo Díaz</b>
	Room A	Gelfand-Kirillov Conjecture for finite W-algebras	Lie Theory: <b>Vyacheslav Futorny</b>
	Room B	Geometry of unitaries in a finite algebra: variation formulas and convexity	Geometry: <b>Lazaro Recht</b>
	Room C	Optimal error estimation for <b>H(curl)</b> -conforming p-interpolation in two dimensions	Numerical Analysis: <b>Norbert Heuer</b>
	Room D	State-closed groups	Special Invitation: <b>Said Sidki</b>
<b>18:20 18:50</b>	Aud. Froemel	Galois coverings of finite dimensional algebras	Algebra: <b>José Antonio de la Peña</b>
	Room A	On Knots with ICON surfaces	Special Invitation: <b>Mario Eudave</b>
	Room B	Conformal Killing graphs with prescribed mean Curvature	Geometry: <b>Marcos Dajczer</b>
	Room C	An adaptive finite element method for shape optimization problems	Numerical Analysis: <b>Pedro Morin</b>
	Room D		

## WEDNESDAY, SEPTEMBER 2 – UNIVERSIDAD DE SANTIAGO DE CHILE

TIME	PLACE	TITLE	SPEAKER
8:30 – 9:40	Aud. Froemel	Probabilistic and dynamical aspects of left-orderable groups	<b>Andrés Navas</b>
	Aud. Quezada	Imaging with waves in homogeneous and random media	<b>Josselin Garnier</b>
9:45 – 10:55	Aud. Froemel	Orbifolds, Fields Theories and Strings: A Mathematical Perspective	<b>Ernesto Lupercio</b>
	Aud. Quezada	Self-similar Groups, Dynamical Systems and Algebras	<b>Laurent Bartholdi</b>
10:55 – 11:10	<b>Coffee Break</b>		
11:10 – 12:00	Aud. Froemel	The structure of large graphs	<b>Noga Alon</b>
12:00-12:15	Aud. Froemel	MATH AMSUD La Cooperación Regional en Matemática	
12:30 – 14:00	<b>Lunch</b>		
14:00 - 14:50	Aud. Froemel	The model theory of real and complex exponential equations	<b>Angus MacIntyre</b>
	Aud. Quezada	On Free Multiplicative Convolutions	<b>Victor Pérez Abreu</b>
15:10- 16:00	Aud. Froemel	$C^1$ dynamics including endomorphisms	<b>Martin Sambarino</b>
	Aud. Quezada	Elimination theory revisited	<b>Aron Simis</b>

16:00 – 16:20	<b>Coffee Break</b>		
<b>16:20 – 16:50</b>	Aud. Froemel	A Class of non-Gaussian selfsimilar stochastic processes	Probability & Statistics: <b>Soledad Torres</b>
	Room A	Higher Fano manifolds	Algebraic Geometry: <b>Carolina Araujo</b>
	Room B	Stable splittings and almost commuting elements in Lie Groups	Topology: <b>José Manuel Gómez</b>
	Room C	Characterizations of maximal regularity via operator-valued Fourier multipliers	Analysis: <b>Carlos Lizama</b>
	Room D	Towards an affine Robinson-Schensted-Knuth Correspondence	Combinatorics: <b>Luc Lapointe</b>
<b>17:00 - 17:30</b>	Aud. Froemel	Trace asymptotics for Levy processes	Probability & Statistics: <b>Rodrigo Bañuelos</b>
	Room A	Foliaciones límite	Algebraic Geometry: <b>Fernando Cukierman</b>
	Room B	Two-vector bundles, D-branes and Frobenius manifolds	Topology: <b>Jorge Devoto</b>
	Room C	Sharp weighted bounds for fractional integral operators	Analysis: <b>Rodolfo Torres</b>
	Room D	Acute triangulations of polytopes	Combinatorics: <b>Igor Pak</b>
<b>17:40 - 18:10</b>	Aud. Froemel	Interacting particle systems in random environment	Probability & Statistics: <b>Milton Jara</b>
	Room A	Special values of Dirichlet series associated to polynomials	Algebraic Geometry: <b>Eduardo Friedman</b>
	Room B	On mapping class groups of non-orientable surfaces	Topology: <b>Miguel Xicotencatl</b>

	Room C	Holomorphic extension theorems via Clifford analysis	Analysis: <b>Ricardo Abreu-Blaya</b>
	Room D	Geometrization of Graphs in Surfaces	Combinatorics: <b>Sóstenes Lins</b>
<b>18:20- 18:50</b>	Aud. Froemel	Test for anisotropy in Gaussian random fields	Probability & Statistics: <b>José R. León</b>
	Room A	On the level and sublevel of rings	Special Invitation: <b>Ricardo Baeza</b>
	Room B	Algebraic K-theory of virtually free groups	Topology: <b>Daniel Juan Pineda</b>
	Room C	An analogue of the Riesz-Haviland Theorem for the truncated moment problem	Analysis: <b>Raul Curto</b>
	Room D	Two critical periods in the evolution of random planar graphs	Combinatorics: <b>Tomasz Luczak</b>

## THURSDAY, SEPTEMBER 3 – UNIVERSIDAD DE SANTIAGO DE CHILE

TIME	PLACE	TITLE	SPEAKER
8:30 -9:40	Aud. Froemel	Probabilistic and dynamical aspects of left-orderable groups	<b>Andrés Navas</b>
	Aud. Quezada	Imaging with waves in homogeneous and random media	<b>Josselin Garnier</b>
9:45 – 10:55	Aud. Froemel	Orbifolds, Fields Theories and Strings: A Mathematical Perspective	<b>Ernesto Lupercio</b>
	Aud. Quezada	Self-similar Groups, Dynamical Systems and Algebras	<b>Laurent Bartholdi</b>
10:55 – 11:10	<b>Coffee Break</b>		
11:10 – 12:00	Aud. Froemel	Rigidity results in cellular automata theory: probabilistic and ergodic approach	UMALCA Prize Lecture: <b>Alejandro Maass</b>
12:30 – 14:00	<b>Lunch</b>		
14:00 - 14:50	Aud. Froemel	Harmonic Analysis related to Schrödinger operators	<b>Eleonor Harboure</b>
	Aud. Quezada	Statistical properties of real and complex one-dimensional dynamical systems	<b>Juan Rivera-Letelier</b>
15:10- 16:00	Aud. Froemel	Some problems in hyperbolic and partially hyperbolic dynamics	UMALCA Prize Lecture: <b>Federico Rodriguez Hertz</b>

16:00 – 16:20	<b>Coffee Break</b>		
<b>16:20 – 16:50</b>	Aud. Froemel	Variational Methods in Imaging	Partial Differential Equations: <b>Irene Fonseca</b>
	Room A	Groups and algebras associated to holomorphic dynamical systems	Algebra: <b>Volodymyr Nekrashevych</b>
	Room B	On the Geometry of Hamilton-Jacobi equation	Mathematical Physics: <b>David Martin de Diego</b>
	Room C	Mathematical engineering research in clarifier-thickener modelling	Mathematics in Science and Tech: <b>Raimundo Bürger</b>
	Room D	Inverse limits in holomorphic dynamics	Complex Dynamics: <b>Carlos Cabrera</b>
<b>17:00 - 17:30</b>	Aud. Froemel	On the uniqueness of sign changing solutions of semilinear equations	Partial Differential Equations: <b>Carmen Cortázar</b>
	Room A	Construction of Weil representations for *-classical groups using Bruhat presentations	Lie Theory: <b>José Pantoja</b>
	Room B	Framed sheaves on projective surfaces	Mathematical Physics: <b>Ugo Bruzzo</b>
	Room C	Mathematics in Computed Tomography.	Math. in Science and Tech: <b>Matías Courdurier</b>

	Room D	Dimension of the limit set of a plane holomorphic foliation	Complex Dynamics: <b>Bertrand Deroin</b>
<b>17:40 - 18:10</b>	Aud. Froemel	Entropy maximizing measures for some partially hyperbolic systems	Dynamical Systems: <b>Federico Rodríguez Hertz</b>
	Room A	Formal multiplications, bialgebras of distributions and non associative Lie theory	Lie Theory: <b>José María Pérez Izquierdo</b>
	Room B	Harmonic Mappings and Conformal Parametrizations of Minimal Surfaces	Geometry: <b>Martín Chuaqui</b>
	Room C	Numerical Analysis of a Residual Local Projection Method for the Darcy Equation	Numerical Analysis: <b>Frederic Valentin</b>
	Room D	On regularization methods of EM-Kaczmarz type	Optimization & Control: <b>Antonio Leitão</b>
<b>18:20- 18:50</b>	Aud. Froemel	Simplicity and fragmentation	Dynamical Systems: <b>Frederic Le Roux</b>
	Room B	Constant mean curvature hypersurfaces in Riemannian manifolds	Geometry: <b>Frank Pacard</b>
	Room C	Fuel Cells: Electrochemistry and Fluid Dynamics	Numerical Analysis: <b>L. Héctor Juárez V.</b>
	Room D	Computational Noise in Simulation-Based Optimization Problems	Optimization & Control: <b>Jorge Moré</b>

## FRIDAY, SEPTEMBER 4 – UNIVERSIDAD DE SANTIAGO DE CHILE

TIME	PLACE	TITLE	SPEAKER
8:30 -9:40	Aud. Froemel	Probabilistic and dynamical aspects of left-orderable groups	<b>Andrés Navas</b>
	Aud. Quezada	Imaging with waves in homogeneous and random media	<b>Josselin Garnier</b>
9:45 – 10:55	Aud. Froemel	Orbifolds, Fields Theories and Strings: A Mathematical Perspective	<b>Ernesto Lupercio</b>
	Aud. Quezada	Self-similar Groups, Dynamical Systems and Algebras	<b>Laurent Bartholdi</b>
10:55 – 11:10	<b>Coffee Break</b>		
11:10 – 12:00	Aud. Froemel	On the global behavior of solutions to critical nonlinear dispersive and wave equations	<b>Carlos Kenig</b>
12:30 – 14:00	<b>Lunch</b>		
14:00 - 14:50	Aud. Froemel	Role of Movement and Dispersal on Disease Dynamics and Evolution with Applications to Influenza and Other Diseases	<b>Carlos Castillo Chavez</b>
	Aud. Quezada	Orbifold string topology	<b>Bernardo Uribe</b>

<b>15:00- 15:30</b>	Aud. Froemel	Automorphisms of Handlebodies	Special Invitation: Ruben Hidalgo
	Room A	Periods and generating functions in Algebraic Geometry	Algebraic Geometry: Hossein Movasati
	Room B	Combinatorial Algebraic Topology	Topology: Dmitry Kozlov
	Room C	Weighted inequalities for the two-dimensional one-sided hardy- littlewood maximal function	Analysis: Liliana Forzani
	Room D	Partitions versus sets duality, an application to treewidth	Combinatorics: Stephan Thomasse
<b>15:30 -16:00</b>	Aud. Froemel	Aging scaling limit for trap models and K-processes	Prob. & Statistics: Luiz Renato Fontes
	Room A	Subvarieties of small codimension	Algebraic Geometry: Enrique Arrondo
	Room B	Aharonov-Bohm Effect and Scattering Theory	Mathematical Physics: Ricardo Weder
	Room C	$C^d$ -Holder classical solutions for non-autonomous neutral differential equations	Analysis: Eduardo Hernández
	Room D	A measure-theoretic approach to the theory of dense hypergraphs	Combinatorics: Gabor Elek

<b>16:00 – 16:20</b>	<b>Coffee Break</b>		
<b>16:20 – 16:50</b>	Aud. Froemel	On the support of solutions for the Ostrovsky Equation	Partial Differential Equations: <b>Pedro Isaza</b>
	Room A	Symmetric and skew-symmetric elements in group algebras	Algebra: <b>Francisco César Polcino Milies</b>
	Room B	On the spectrum of the twisted Dolbeault Laplacian on Kahler manifolds	Mathematical Physics: <b>Marcos Jardim</b>
	Room C	Mathematical and Computational Challenges in Climate Modeling	Math. in Science and Tech: <b>Pedro L. da Silva Dias</b>
	Room D	Monodromy of singularities of holomorphic foliations in the plane	Complex Dynamics: <b>David Marin</b>
<b>17:00 - 17:30</b>	Aud. Froemel	Homogenization of degenerate porous medium type equations in ergodic algebras	Partial Differential Equations: <b>Hermano Frid</b>
	Room A	Finite groups arising from involutive non-degenerate set-theoretic solutions of the Yang-Baxter equation	Algebra: <b>Ángel Del Río Mateos</b>
	Room B	The many faces of integrability in random matrix models	Mathematical Physics: <b>Patrick Desrosiers</b>

	Room C	Mathematical modeling of extraction of copper from a deposit by using in situ leaching technology	Math. in Science and Tech: <b>C. Conca/J. San Martín</b>
	Room D	Skew-product complex dynamics	Complex Dynamics: <b>Mario Ponce</b>
<b>17:40 - 18:10</b>	Aud. Froemel	The trace of the resolvent of an elliptic cone operator	Partial Differential Equations: <b>Gerardo Mendoza</b>
	Room A	Structure and representations of alternative superalgebras	Algebra: <b>Ivan Shestakov</b>
	Room B	Eigenvalue statistics for random Schrödinger operators	Mathematical Physics: <b>François Germinet</b>
	Room C	A Web-Services accessible turbulence database of isotropic turbulence and sample application	Math. in Science and Tech: <b>Charles Meneveau</b>
	Room D	Multi-summability of unfoldings of tangent to the identity diffeomorphisms	Complex Dynamics: <b>Javier Ribon</b>
<b>18:20 - 18:50</b>	Aud. Froemel	A free boundary problem for the $p(x)$ -laplacian	Partial Differential Equations: <b>Noemi Wolanski</b>
	Room D	Topological aspects of a holomorphic vector field singularity	Complex Dynamics: <b>Rudy Rosas</b>