

**Programme de l'atelier SIDE12
3 - 9 juillet 2016**

**Program SIDE 12
July 3 - 9, 2016**

Lundi 4 juillet - Monday, July 4th

9:00 - 9:15 Mot de bienvenue / Welcoming address

Session 2: *Orthogonal polynomials, special functions and their relation to discrete integrable systems and their elliptic analogs*

9:15 - 9:45 Luc Vinet - Persymmetric Jacobi matrices, isospectral deformations and orthogonal polynomials

9:45 - 10:15 Ian Marquette - Ladder operators for rationally-extended potentials connected with exceptional orthogonal polynomial

10:15 - 10:45 Sengul Nalci Tumer - q -analytic functions: applications to q -Hermite binomial formula, q -traveling waves and quantum states

10:45 - 11:00 *Pause café / Coffee break*

Session 7: *Cluster algebras and discrete integrable systems. Dynamics on graphs and combinatorics*

11:00 - 11:30 Ilke Canakci - Snake graphs and continued fractions

11:30 - 12:00 Max Glick - Y-meshes and generalized pentagram maps

12:00 - 12:30 Dylan Rupel - Dual canonical basis conjecture via categorifications of cluster - Algebras and quantum groups

12:30 - 15:00 *Pause déjeuner / Lunch break*

Session 8: *Difference Galois theory*

15:00 - 15:30 Carlos Arreche - Projectively integrable linear difference equations and their Galois groups

15:30 - 16:00 Julien Roques - Mahler equations

16:00 - 16:30 Michael Wibmer - Torsors for groups defined by difference equations and Galois theory

16:30 – 17:00 *Pause café / Coffee break*

Session 3: Integrability criteria for single and multivariable difference equations and differential difference equations

17:00 – 17:30 Dinh Thi Tran - Towards some exact results for the (vanishing) algebraic entropy of (integrable) lattice equations

Présentations des affiches / Poster presentations

17:30 – 17:35 Hatice Aslan - A continuous analogue of the Bernstein polynomials

17:35 – 17:40 Sarif Hassan - Dynamics of $\displaystyle{z_{n+1}=\frac{\alpha + \alpha z_n + \beta z_{n-1}}{1+z_n}}$ in complex plane

17:40 - 17:45 Thomas Kecker - A cubic Hamiltonian system of Painlevé type

17:45 - 17:50 Seiji Nishioka - Irreducibility of difference Painlevé equations

17:50 - 17:55 Elynor Qing Liu - q-discrete Painlevé III and its associated linear problem

17:55 - 18:00 Geoffroy Bergeron - Generating functions for the Bannai-Ito polynomials

18:00 - 18:05 Julien Gaboriaud - A superintegrable discrete oscillator and two-variable Meixner polynomials

18:05 - 18:10 Bjorn Berntson - Delay-differential equations, singularity confinement, and elliptic solutions

18:10 - 18:15 Adam Doliwa - Generalized quasi-symmetric functions and Hopf algebras of trees

18:15 - 18:20 Peter van der Kamp - Laurentification

18:20 – 18:25 Panupong Vichitkunakorn - Solutions to the T-systems with principal coefficients

18:25 – 18:30 Cheng Zhang - On a non-commutative extension of the discrete potential KdV equation

19:30 *Dîner / Dinner*

Mardi 5 juillet / Tuesday July 5th

Session 3: *Integrability criteria for single and multivariable difference equations and differential difference equations*

9:00 - 9:30 Pavlos Xenitidis - Integrability conditions and their implementation

9:30 – 10:00 Christian Scimiterna - Quad equations consistent on the cube I: classification, linearizability and generalized symmetries

10:00 – 10:30 Giorgio Gubbiotti - Quad equations consistent on the cube II: Darboux integrability for the H4 and H6 equations

10:30 – 11:00 *Pause café / Coffee break*

11:00 - 11:30 Sergey Smirnov - Darboux integrability of discrete Toda lattices

Session 2: *Orthogonal polynomials, special functions and their relation to discrete integrable systems and their elliptic analogs*

11:30 – 12:00 Oleg Chalykh - Hypergeometric adelic Grassmannian and bispectrality

12:00 – 12:30 Hiroshi Miki - Multiple orthogonal polynomials and related integrable systems

12:30 – 15:00 *Pause déjeuner / Lunch break*

15:00 – 15:30 Rémi Léandre - Malliavin Calculus of Bismut type for an operator of order four on a Lie group

Session 1: *Discrete, continuous and ultradiscrete Painlevé equations*

15:30 – 16:00 Robert Conte - Linear representations of $\backslash\text{PVI}\backslash$ and $\backslash\text{dPVI}\backslash$ by second order matrices

16:00 – 16:30 Hayato Chiba - Painlevé equations and weights

16:30 – 17:00 *Pause café / Coffee break*

17:00 – 17:30 Yang Shi - Geometry, Coxeter's polytopes and discrete integrable systems

Session 5: *Discrete integrable systems and isomonodromy transformations. Yang-Baxter maps and quantum discrete integrable systems*

17:30 – 18:00 Da-jun Zhang - A review of discrete Boussinesq-type equations

18:00 – 18:30 Sotiris Konstantinou-Rizos - Noncommutative extensions of Yang-Baxter maps associated to NLS type equations

18:30 – 19:00 John Harnad - Quantum spectral curves for weighted Hurwitz numbers and isomonodromic deformations

19:30 *Dîner / Dinner*

Mercredi 6 juillet - Wednesday July 6th

Session 1: *Discrete, continuous and ultradiscrete Painleve equations*

9:00 - 9:30 Anton Dzhamay - On the geometry of discrete Painlevé equations of type $A_2^{(1)}$

9:30 - 10:00 Steven Luu - Stokes Phenomena in discrete Painlevé II

10:00 - 10:30 Ralph Willox - Full-deautonomisation or how to obtain the algebraic entropy of a map from singularity confinement

10:30 - 11:00 *Pause café / Coffee break*

Session 3: *Integrability criteria for single and multivariable difference equations and differential difference equations*

11:00 - 11:30 Alfred Ramani - Full-deautonomisation of a lattice equation

11:30 - 12:00 Matteo Petrera - A construction of a family of commuting pairs of integrable symplectic birational 4-dimensional maps

12:00 - 12:30 Rod Halburd - Integrable systems on function fields

12:30 - 15:00 *Pause déjeuner / Lunch break*

Session 6: *Continuous symmetries of discrete equations. Structure preserving discretization of differential equations and numerical methods*

15:00 - 15:30 Reinout Quispel - Kahan's method, polarisation, and integrable mappings

15:30 - 16:00 Francis Valiquette - Symmetry reduction of ordinary finite difference equations using moving frames

16:00 - 16:30 Andy Wan - Conservative discretization and long term stability

16:30 - 17:00 *Pause café / Coffee break*

Session 4: *Discrete differential geometry*

17:00 - 17:30 Kenji Kajiwara - An integrable model of vortex filament

17:30 - 18:00 Wolfgang Schief - The geometry and algebraic integrability of discrete confocal quadrics

18:00 – 18:30 Adam Doliwa - Non-commutative discrete integrable systems of a geometric origin, and the corresponding Yang-Baxter maps

18:30 – 19:00 Masashi Yasumoto - Discrete constant mean curvature surfaces in Minkowski space

20:00 *Banquet*

Jeudi 7 juillet - Thursday July 7th

Session 7: Cluster algebras and discrete integrable systems. Dynamics on graphs and combinatorics

9:00 - 9:30 Andrew Hone - Reductions of the discrete Hirota equation

9:30 – 10:00 Darlayne Addabbo - Q-systems and generalizations in representation theory

10:00 – 10:30 Tomoki Nakanishi - On generalized cluster algebras

10:30 – 11:00 *Pause café - Coffee break*

11:00 – 11:30 Naoto Okubo - Discrete integrable equations associated with cluster algebra and its extension

Session 6: Continuous symmetries of discrete equations. Structure preserving discretization of differential equations and numerical methods

11:30 – 12:00 Werner Bauer - Variational integrators for anelastic and pseudo-incompressible flows

12:00 – 12:30 Theodoros Kouloukas - Integrable aspects of a generalized Lotka-Volterra system and its Kahan discretization

12:30 – 15:00 *Pause déjeuner / Lunch break*

Session 8: Difference Galois theory

15:00 – 15:30 Shaoshi Chen - Existence problem of telescopers: Beyond the bivariate case

15:30 – 16:00 Thomas Dreyfus - Functional relations satisfied by q-difference equations

16:00 – 16:30 Ruyong Feng - Computing the Galois groups of linear difference equations

16:30 – 17:00 *Pause café / Coffee break*

Session 2: Orthogonal polynomials, special functions and their relation to discrete integrable systems and their elliptic analogs

17:00 – 17:30 Satoshi Tsujimoto - Discrete non-autonomous integrable systems and eigenvalue problems

17:30 – 18:00 Jean-Michel Lemay - A new truncation of the Wilson polynomials

18:00 – 18:30 Wouter van de Vijver - The Racah problem for the higher rank
Bannai-Ito algebra

19:30 *Dîner / Dinner*

Vendredi 8 juillet - Friday July 8th

Session 1: *Discrete, continuous and ultradiscrete Painleve equations*

9:00 - 9:30 Yousuke Ohyama - Some q -Painlevé equations and connection problems

9:30 – 10:00 Davide Masoero - Discrete families of Nevanlinna problems and special solutions of (classical) Painlevé equations

10:00 – 10:30 Akane Nakamura - Autonomous limit of the 4-dimensional Painlevé-type equations and degeneration of curves of genus two

10:30 – 11:00 *Pause café / Coffee break*

Session 9: *Lattices and Symmetries in Physical Applications*

11:00 – 11:30 Jean-Sébastien Caux - Dynamics and relaxation in integrable quantum spin chains

11:30 – 12:00 Jan Felipe van Diejen - Bethe Ansatz for a finite q -boson system with boundary interactions

12:00 – 12:30 Manana Chumburidze - Approximate solution of boundary-contact problems of the generalized coupled thermodiffusion

12:30 – 15:00 *Pause déjeuner / Lunch break*

15:00 – 15:30 Milosz Panfil - New knot invariants and statistical physics

15:30 – 16:00 Robert Weston - Conserved charges and discrete holomorphicity in vertex and face models

Session 1: *Discrete, continuous and ultradiscrete Painleve equations*

16:00 – 16:30 Nakazono Nobutaka - Lax pairs of A_4 -surface q -Painlevé equations constructed from a system of ABS equations

16:30 – 17:00 *Coffee break*

17:00 – 17:30 Takao Suzuki - A generalization of the q -Painlevé VI equation from a viewpoint of a basic hypergeometric solution

17:30 – 18:00 Tomoyuki Takenawa - Fiber-dependent deautonomization of integrable 2D mappings

18:00 – 18:30 Pieter Roffelsen - On the series expansion of general solutions of the discrete Painlevé equation q -P(A1) at its fixed singular points and corresponding connection problem

18:30 – 19:00 Christopher Ormerod - Discrete Garnier systems

19:30 *Dîner / Dinner*

Samedi 9 juillet / Saturday July 9th

Matinée libre / Free morning

10:30 – 11:00 *Pause café / Coffee break*

11:30 Les autobus quittent l'hôtel: une en direction de l'aéroport et l'autre en direction de l'université.

Buses leaving the hotel: one to the Airport and one to the University.