

Workshop on

**“Recent Perspectives on Non-crossing Partitions through Algebra,
Combinatorics, and Probability”**

February 17 - 21, 2025

organized by

Adrian Celestino Rodriguez (TU Graz), Kurusch Ebrahimi-Fard (NTNU, Trondheim), James Mingo (Queen’s U, Kingston), Martin Rubey (TU Vienna), Eleni Tzanaki (U of Crete), Yannic Vargas (CUNEF U, Madrid)

• **Monday, February 17th, 2025**09:00 – 09:30 **Registration & Welcome**09:30 – 10:15 **Philippe Biane (U Gustave Eiffel, Champs-sur-Marne)***Non-crossing partitions and combinatorics, from random matrices to free cumulants to parking functions – Lecture 1*10:15 – 10:45 **Coffee Break**10:45 – 11:30 **Christian Stump (Ruhr U, Bochum)***A three-lecture journey through noncrossing Cataland – Lecture 1*11:45 – 12:30 **Barbara Baumeister (U of Bielefeld)***The combinatorial approach to Coxeter and Artin groups*12:30 – 14:00 **Lunch Break**14:00 – 14:30 **Alexander Lazar (ULB, Brussels)***Noncrossing Bonds in Ferrers Graphs*14:30 – 15:00 **Lucas Gagnon (York U, Toronto)***Non-crossing partitions, equivariant cohomology, and polynomials*15:00 – 15:45 **Emily Barnard (DePaul U, Chicago)***Lattice Theory of Noncrossing partitions and Noncrossing arc diagrams – Lecture 1*15:45 – 16:00 **Coffee Break**16:00 – 16:45 **Christian Krattenthaler (U of Vienna)***Positive m -divisible non-crossing partitions and their cyclic sieving*• **Tuesday, February 18th, 2025**09:00 – 09:45 **Christian Stump (Ruhr U, Bochum)***A three-lecture journey through noncrossing Cataland – Lecture 2*10:00 – 10:45 **Philippe Biane (U Gustave Eiffel, Champs-sur-Marne)***Non-crossing partitions and combinatorics, from random matrices to free cumulants to parking functions – Lecture 2*10:45 – 11:15 **Coffee Break**

11:15 – 12:00 **Franz Lehner (TU Graz)**

Some questions on cumulants

12:00 – 12:30 **Pei-Lun Tseng (NYU, Abu Dhabi)**

Non-crossing Linked Partitions and infinitesimal free multiplicative convolution

12:30 – 14:00 **Lunch Break**

14:00 – 14:30 **Daniel Perales Anaya (TAMU, College Station)**

Iterative Families of Partitions

14:30 – 15:00 **Matthias Müller (TU Graz)**

The v -core label order and non-crossing partitions

15:00 – 15:45 **Emily Barnard (DePaul U, Chicago)**

Lattice Theory of Noncrossing partitions and Noncrossing arc diagrams – Lecture 2

15:45 – 16:00 **Coffee Break**

16:00 – 16:45 **Octavio Arizmendi Echegaray (CIMAT, Guanajuato)**

A combinatorial identity for the set of partitions related to limit theorems in finite free probability theory

• **Wednesday, February 19th, 2025**

09:00 – 09:45 **Viviane Pons (Paris-Saclay U)**

A conjecture on descents, inversions and the weak order

09:45 – 10:30 **Loïc Foissy (U of Littoral Côte d’Opale, Dunkerque)**

Double bialgebra of noncrossing partitions

10:30 – 10:45 **Coffee Break**

10:45 – 11:30 **Matthieu Josuat-Vergès (U Paris Cité)**

Parking functions as noncrossing cosets

11:30 – 12:00 **Katerina Kalampogia-Evangelinou (U Athens)**

The chain polynomials of noncrossing partition lattices are real-rooted

12:00 – 12:30 **Galen Dorpalen-Barry (TAMU, College Station)**

The Poincare-extended ab -index

12:30 – **Free Afternoon**

18:30 – **Workshop Dinner**

• **Thursday, February 20th, 2025**

09:00 – 09:45 **Christian Stump (Ruhr U, Bochum)**

A three-lecture journey through noncrossing Cataland – Lecture 3

10:00 – 10:45 **Philippe Biane (U Gustave Eiffel, Champs-sur-Marne)**

Non-crossing partitions and combinatorics, from random matrices to free cumulants to parking functions – Lecture 3

10:45 – 11:15 **Coffee Break**

11:15 – 12:00 **Joachim Kock (U Autònoma, Barcelona)**

Decomposition spaces of noncrossing partitions in free probability

12:00 – 12:30 **Nikolas Tapia (TU Berlin)**

Shifted Substitution in Non-Commutative Multivariate Power Series with a View Toward Free Probability

12:30 – 14:00 **Lunch Break**

14:00 – 14:30 **Josue Vazquez-Becerra (CIMAT, Guanajuato)**

Annular noncrossing permutations in non-commutative probability.

14:30 – 15:00 **Jacob Campbell (U Virginia)**
Statistics on monotonically ordered non-crossing partitions

15:00 – 15:45 **Emily Barnard (DePaul U, Chicago)**
Lattice Theory of Noncrossing partitions and Noncrossing arc diagrams – Lecture 3

15:45 – 16:00 **Coffee Break**

16:00 – 16:45 **Susanna Fishel (ASU, Phoenix)**
Parking functions and certain bond lattices

• **Friday, February 21st, 2025**

09:00 – 09:45 **Philippe Nadeau (Institute Camille Jordan, U Lyon)**
Combinatorics of Igusa's category of noncrossing partitions

10:00 – 10:45 **Theodosios Douvropoulos (Brandeis U)**
Shi-like and Catalan-like deformations for restricted reflection arrangements.

10:45 – 11:15 **Coffee Break**

11:15 – 11:45 **Stephan Pfannerer (U Waterloo)**
Non-crossing partitions and webs

11:45 – 12:30 **Nathan Reading (NC State U, Raleigh)**
Noncrossing partitions of a marked surface

12:30 – **End of the Workshop**

All talks take place at ESI Boltzmann Lecture Hall!