

Workshop on
“Non-commutative Geometry meets Topological Recursion”

April 24 - 28, 2023

organized by

Gaëtan Borot (HU Berlin), Elba Garcia Failde (Sorbonne U, Paris), Harald Grosse (U of Vienna),
Masoud Khalkhali (Western U, Ontario), Hannah Markwig (U Tübingen),
Raimar Wulkenhaar (U Münster)

- **Monday, April 24th, 2023**

09:00 – 09:30 **Registration & Welcome**

09:30 – 10:30 **Alexander Hock (U Oxford)**

x – y symplectic transformation in Topological Recursion and applications - Lecture 1

10:30 – 11:00 **Coffee Break**

11:00 – 12:00 **Renzo Cavalieri (CSU, Fort Collins)**

Tropical contributions to enumerative geometry of target dimension one - Lecture 1

12:15 – 14:00 **Lunch break**

14:00 – 14:45 **Margarida Melo (U Roma Tre)**

Tropicalization of the universal Jacobian: logarithmic and non-archimedean view points

14:45 – 15:00 **Coffee break**

15:00 – 16:00 **Gong talks 1**

16:00 – 16:15 **Break**

16:15 – 17:30 **Gong talks 2**

This session will take place in the Schrödinger Lecture Hall.

- **Tuesday, April 25th, 2023**

09:00 – 10:00 **Renzo Cavalieri (CSU, Fort Collins)**

Tropical contributions to enumerative geometry of target dimension one - Lecture 2

10:00 – 10:30 **Coffee break**

10:30 – 11:30 **Alexander Hock (U Oxford)**

x-y symplectic transformation in Topological Recursion and applications - Lecture 2

11:30 – 11:45 **Break**

11:45 – 12:30 **Omid Amini (École Polytechnique, Palaiseau)**

Higher rank Voronoi decompositions and metric degenerations of tori

12:30 – 14:30 **Lunch break**

14:30 – 15:30 **Benoit Collins (Kyoto U)**

Around the joint behaviour of independent random tensor matrices - Lecture 1

15:30 – 15:45 **Coffee break**

15:45 – 16:45 **Renzo Cavalieri (CSU, Fort Collins)**
Tropical contributions to enumerative geometry of target dimension one - Lecture 3

• **Wednesday, April 26th, 2023**

09:00 – 10:00 **Rei Inoue (U Chiba)**
Symmetries of discrete and ultradiscrete integrable systems - Lecture 1

10:00 – 10:30 **Coffee break**

10:30 – 11:30 **Benoit Collins (Kyoto U)**
Around the joint behaviour of independent random tensor matrices - Lecture 2

11:30 – 11:45 **Break**

11:45 – 12:30 **Imma Galvez-Carrillo (U Politecnica Catalunya, Barcelona)**
On B_∞ -algebra structures

• **Thursday, April 27th, 2023**

09:00 – 10:00 **Benoit Collins (Kyoto U)**
Around the joint behaviour of independent random tensor matrices - Lecture 3

10:00 – 10:30 **Coffee break**

10:30 – 11:30 **Alexander Hock (U Oxford)**
 x - y symplectic transformation in Topological Recursion and applications - Lecture 3

11:30 – 11:45 **Break**

11:45 – 12:30 **Sergey Shadrin (U Amsterdam)** *Functional relations for higher order free cumulants and moments*

12:30 – 14:15 **Lunch break**

14:15 – 15:15 **Rei Inoue (U Chiba)**
Symmetries of discrete and ultradiscrete integrable systems - Lecture 2

15:15 – 15:45 **Coffee break**

15:45 – 16:30 **Teun van Nuland (UNSW Sydney)**
One-loop renormalizability of the spectral action using cyclic cocycles

• **Friday, April 28th, 2023**

09:00 – 10:00 **Rei Inoue (U Chiba)**
Symmetries of discrete and ultradiscrete integrable systems - Lecture 3

10:00 – 10:30 **Coffee break**

10:30 – 11:15 **Luca Lionni (U Heidelberg)**
Progress in the combinatorial understanding of higher-order free cumulants

11:15 – 12:00 **Ariane Carrance (École Polytechnique, Paris)**
Exploring boundary conditions of bicolored maps: universal behaviors and new structures

12:00 – 12:15 **Break**

12:15 – 13:00 **Valentin Bonzom (U Paris-Nord)**
Enumeration of maps via integrability

All talks take place at ESI Boltzmann Lecture Hall, except Gong talks session 2 on Monday! Wearing an FFP2 mask is strongly recommended!