

WORKSHOP on

**“The interrelation between mathematical physics, number theory and
noncommutative geometry”**

March 2 - 13, 2015

organized by

**Harald Grosse (U Vienna), Ryszard Nest (U Copenhagen),
Walter D. Van Suijlekom (Radboud U Nijmegen), Stefan Weinzierl (U Mainz)**

Research Meeting:

March 9 - 13, 2015

• **Monday, March 9, 2015**

11:00 – 12:00 **Katarzyna Rejzner**

BV algebras in perturbative AQFT and effective quantum gravity

12:00 – 14:00 *lunch break*

14:00 – 15:00 **Sylvie Paycha**

The residue of meromorphic functions with linear poles and the geometry of cones

15:00 – 15:30 *break*

15:30 – 16:30 **Jacob Bourjaily**

Scattering Amplitudes and Grassmannian Geometry

16:45 – 17:45 **Susama Agarwala**

A Tale of two renormalizations: BPHZ and Epstein Glaser

• **Tuesday, March 10, 2015**

09:30 – 10:30 **Adrian Tanasa**

Tensor models

10:30 – 11:00 *coffee / tea break*

11:00 – 12:00 **Lars Hesselholt**

Topological Hochschild homology and periodicity

12:00 – 14:00 *lunch break*

14:00 – 16:00 **Alain Connes**

The Arithmetic Site, Lecture Series, part 2 of 3 at the ESI: Quanta of Geometry

- **Wednesday, March 11, 2015**

09:30 – 10:30 **Vincent Rivasseau**

Tensor Models, from branched polymers to Brownian spheres

10:30 – 11:00 *coffee / tea break*

11:00 – 13:00 **Alain Connes**

The Arithmetic Site, Lecture Series, part 3 of 3 at the ESI: Arithmetic Site

13:00 – 15:15 *Break*

SPECIAL LECTURE Building of the Faculty of Mathematics

12 th floor, Lounge, Oskar-Morgenstern-Platz 1

15:15 – **Nils Carqueville**

Topological quantum field theory: symmetries and defects

- **Thursday, March 12, 2015**

09:30 – 10:30 **David Broadhurst**

Polylogs of roots of unity: the good, the bad and the ugly

10:30 – 11:00 *coffee / tea break*

11:00 – 12:00 **Dirk Kreimer**

Organizing QFT by next to leading logs

12:00 – 14:00 *lunch break*

14:00 – 15:00 **Victor Gayral**

From equivariant quantization to locally compact quantum group

15:00 – 15:30 *break*

15:30 – 16:30 **Giovanni Landi**

The geometry of quantum lens spaces

- **Friday, March 13, 2015**

09:00 – 10:00 **Thomas Krajewski**

Some applications of the loop vertex expansion

10:00 – 10:30 *coffee / tea break*

10:30 – 11:30 **Spencer Bloch**

Cutkosky rules and vanishing cycles

11:30 – 12:30 **Dmitry Dorin**

Counting rational points on graph hypersurfaces

All talks (except the talk by NILS CARQUEVILLE) take place at the ESI, Boltzmann Lecture Hall

Nils Carqueville (Simons Junior Professor), speaks at the Mathematical Colloquium on 11 th of March, 15:15 h, in the Lounge, 12. floor, building of the Faculty of Mathematics, Oskar-Morgenstern-Platz 1, on:

Topological quantum field theory: symmetries and defects