

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)**

Master Class: March 2 - 6, 2015

• **Monday, March 2, 2015**

09:00 – 09:25 **Registration**

09:25 – 09:30 **Opening**

09:30 – 10:30 **Stefan Weinzierl**

Feynman integrals and the functions associated to them

10:30 – 11:00 *coffee / tea break*

11:00 – 12:00 **Karen Yeats**

Introduction to a combinatorial perspective on QFT

12:00 – 14:00 *lunch break*

14:00 – 15:00 **Raimar Wulkenhaar**

Quantum field theory on noncommutative spacetimes

15:00 – 15:30 *break*

15:30 – 16:30 **Jacob Bourjaily**

Scattering Amplitudes and Grassmannian Geometry

• **Tuesday, March 3, 2015**

09:30 – 10:30 **Stefan Weinzierl**

Feynman integrals and the functions associated to them

10:30 – 11:00 *coffee / tea break*

11:00 – 12:00 **Karen Yeats**

Graph theory and QFT periods

12:00 – 14:00 *lunch break*

14:00 – 15:00 **Raimar Wulkenhaar**

Quantum field theory on noncommutative spacetimes

15:00 – 15:30 *break*

15:30 – 16:30 **Jacob Bourjaily**

Scattering Amplitudes and Grassmannian Geometry

- **Wednesday, March 4, 2015**

09:30 – 10:30 **Stefan Weinzierl**

Feynman integrals and the functions associated to them

10:30 – 11:00 *coffee / tea break*

11:00 – 12:00 **Karen Yeats**

Recursive and algebraic structure via DSEs

12:00 – 14:00 *lunch break*

14:00 – 15:00 **Jacob Bourjaily**

Scattering Amplitudes and Grassmannian Geometry

17:00 – 18:00 **Pierre Vanhove (Erwin Schrödinger Lecture)**

Modular invariance and duality symmetries in Quantum Field Theory and String Theory

- **Thursday, March 5, 2015**

09:30 – 10:30 **Jacob Bourjaily**

Scattering Amplitudes and Grassmannian Geometry

10:30 – 11:00 *coffee / tea break*

11:00 – 13:00 **Alain Connes**

*The Arithmetic Site, Lecture Series, part 1 of 3 at the ESI:
Noncommutative Geometry*

13:00 – 15:00 *lunch break*

15:00 – 16:00 **Raimar Wulkenhaar**

Quantum field theory on noncommutative spacetimes

- **Friday, March 6, 2015**

11:00 – 12:00 **Raimar Wulkenhaar**

Quantum field theory on noncommutative spacetimes

12:00 – 14:00 *lunch break*

14:00 – 15:00 **Jacob Bourjaily**

Scattering Amplitudes and Grassmannian Geometry

All talks take place at the ESI - Boltzmann Lecture Hall