

General Mathematics Seminar  
of the  
University of Luxembourg  
in cooperation with the  
Luxembourg Mathematical Society

**October, 2012**

**Tuesday, October 9, 2012, at 17:00**

**Campus Kirchberg, Room B02**

Lucien Haddad

( Department of Mathematics and Computer Science Royal Military College of  
Canada )

**Partial clones on a finite set**

Abstract:

Let  $A$  be a finite set. A partial clone on  $A$  is a set of partial functions closed under composition and containing all projection functions on  $A$ . We survey some of our recent results in the theory of partial clones. This is joint work with M. Couceiro, I.G. Rosenberg, K. Schölzel and T. Waldhauser.

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**October, 2012**

**Tuesday, October 23, 2012, at 17:00**

**Campus Kirchberg, Room B02**

Christoph Thäle  
( Department of Mathematics university of Osnabrück )

**Random tessellations**

Abstract:

Random tessellations, also known as random mosaics, are random partitions of the space into non-overlapping convex polyhedra. Tessellations arise naturally in many contexts, examples include tilings, crystals, cellular structures, communication networks, crack patterns, foams, and so on. Random tessellations are at the heart of stochastic geometry, a branch of mathematics that is concerned with modelling and analysing complicated geometrical structures. The aim of the talk is to introduce this fascinating subject and to give an overview on most popular models.

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**October, 2012**

**Tuesday, October 30, 2012, at 17:00**

**Campus Kirchberg, Room B02**

Oleg Sheinman  
( Steklov Mathematical Institute, Moscow, Russia )

**Current algebras on Riemann surfaces and their relation to geometry,  
conformal field theory, integrable systems and quantization.**

Abstract:

We will consider two types of current algebras on Riemann surfaces: Krichever-Novikov algebras, and Lax operator algebras. The first are gauge algebras of Conformal Field Theories (CFT), while the second appear as Lie algebras related to Lax integrable systems. We will describe the procedure of constructing the CFT given a Krichever-Novikov algebra, and by similar argument show that there is a correspondence between Lax integrable systems of certain type on one hand side, and Conformal Field Theories on the other hand side.