

MATHEMATICS SEMINAR
of the
UNIVERSITY OF LUXEMBOURG
in cooperation with the
LUXEMBOURG MATHEMATICAL SOCIETY

June 2007

Monday (!), 11 June 2007, at 5 pm

Room 3.04 bs

Jacques Franchi
University of Strasbourg

Relativistic Diffusion in Gödel's Universe

Abstract

K. Gödel published his exact solution to Einstein's field equations in 1949. On the other hand, a general Lorentz invariant operator, associated to a so-called "relativistic diffusion", and making sense in any Lorentz manifold, was defined recently by Y. Le Jan and myself. I shall expound a study of the relativistic diffusion in the framework of Gödel's universe, which contains matter and is non-causal.

12 June 2007, at 5 pm

Room 3.04 bs

Benjamin Enriquez
University of Strasbourg

Universal elliptic KZB connections

Abstract

We define a universal version of the Knizhnik-Zamolodchikov-Bernard (KZB) connection in genus 1. This is a flat connection over a principal bundle on the moduli space of elliptic

curves with marked points. It restricts to a flat connection on configuration spaces of points on elliptic curves, which can be used for proving the formality of the pure braid groups on genus 1 surfaces. We study the monodromy of this connection and show that it gives rise to a relation between the KZ associator and a generating series for iterated integrals of Eisenstein forms. We show that the universal KZB connection realizes as the usual KZB connection for simple Lie algebras.

19 June 2007, at 5 pm

Room 3.04 bs

Marie-Pierre Pausch
University of Luxembourg

Facilities of the University's Library

Abstract

This presentation gives an overview about the facilities of the University's Library, in particular about the network catalogue www.bibnet.lu and about the electronic documentary portal www.portal.bnu.lu

The objective is to give advice in order to improve searches and to give explanations about the content, the structure and technical aspects of these tools, as the metasearch of the portal.

Wednesday (!), 20 June 2007, at 5 pm

Room 3.04 bs

Elton P. Hsu
Northwestern University

Cameron-Martin-Girsanov Theorem in Stochastic Analysis

Abstract

The Cameron-Martin-Girsanov-Maruyama theorem is the cornerstone of stochastic analysis and plays a crucial role in infinite dimensional analysis and financial mathematics. In this talk we will first briefly review the history of the theorem. We will then discuss the theorem in its most classical form. At the end we will present some latest developments, especially its generalization to noncompact Riemannian manifolds.