Lie Group and Representation Theory Seminar

Date: October 21 (Fri), 2005, 10:30–11:30
Place: RIMS, Kyoto University : Room 402
Speaker: Misha Pevzner (Reims)
Title: Kontsevich Quantization and Duflo Isomorphism

Abstract: Since the fundamental results by Chevalley, Harish-Chandra and Dixmier one knows that the set of ad-invariant polynomials on the dual of a Lie algebra of a particular type (solvable, simple or nilpotent) is isomorphic, as an algebra, to the center of the enveloping algebra. This fact was generalized to an arbitrary finite-dimensional real Lie algebra by M. Duflo in late 70's. His proof is based on the Kirillov's orbits method that parametrizes infinitesimal characters of unitary irreducible representations of the corresponding Lie group in terms of co-adjoint orbits.

The Kontsevich' Formality theorem implies not only the existence of the Duflo map but shows that it is canonical. We shall describe this construction and indicate how does this construction extend to the whole Poisson cohomology of an arbitrary finite-dimensional real Lie algebra.