

# Representation Theory, Geometry & Combinatorics Seminar

Organizer(s): M. Haiman, K. Reshetikhin, D. Hill & J. Sussan

Monday, 1:00–3:00pm, 939 Evans

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10/27/08 **Sebastian Zwicknagel**, UC Riverside

*Lie Bialgebras and Quantizations of Symmetric Algebras*

In this talk I will discuss equivariant quantizations for symmetric algebras of finite-dimensional modules  $V$  over a Lie bialgebra  $\mathfrak{g}$ . I will briefly introduce the notion of a co-decorated co-Poisson module algebra and then some classes of examples, among them certain Lie bialgebra structures on the semidirect product of  $\mathfrak{g}$  and  $V$ . I will show how they give rise to quantizations of the symmetric algebras of  $V$ . I will then give a classification of such structures, when  $\mathfrak{g}$  is complex, simple and quasitriangular.

I will talk about connections of this work to other areas, from Poisson geometry to coboundary/cactus categories in the second part of the seminar.