1039-17-66 **Sebastian Zwicknagl*** (zwick@math.ucr.edu), Department of Mathematics, 900 University Avenue, Riverside, CA 92521. *Lie bialgebras and Quantum Symmetric Algebras.*

We will introduce quantum symmetric algebras as quantized coordinate algebras with an Hopf algebra H action as symmetries. Using the language of co-Poisson Hopf algebras I will focus on the case when H is a quantization of the universal enveloping algebra of a complex simple Lie algebra g and the quantum symmetric algebra a deformation of the symmetric algebra of a g-module. In the case when V is simple and H the standard quantized enveloping algebra we will give a complete classification of all such structures. Finally, we shall discuss some prominent examples and connect them to some other areas of mathematics such as invariant theory and cluster algebras. (Received March 04, 2008)