1025-17-103   **Wee Liang Gan*** (`wlgan@math.ucr.edu`) and **Travis Schedler**
(`trasched@math.uchicago.edu`). *Necklace Lie coalgebras and renormalization algebras.*

The Necklace Lie algebra arises from noncommutative symplectic geometry associated to a quiver; it was discovered independently by Ginzburg and Bocklandt-Le Bruyn. A Lie coalgebra structure was subsequently found by Schedler. We shall give an interpretation of the Necklace Lie coalgebra in terms of Connes and Kreimer's Lie coalgebra of trees and their renormalization Hopf algebras which arises from quantum field theory. These results are direct analogues of Turaev's results in 2004, by replacing algebras of loops on surfaces with algebras of paths in quivers. (Received January 17, 2007)