1001-58-49   **Paul A Loya***, Binghamton University, Department of Mathematics, Vestal Parkway East, Binghamton, NY 13850. *Gluing and comparison formulae for the spectral invariants of Dirac operators on compact and noncompact manifolds.*

Over the past several years there has been intense research activity in understanding the behavior of the spectral invariants of Dirac type operators under gluing, or surgery, of the underlying Riemannian manifold. This has resulted in the search for gluing or pasting formulas for these invariants and has been motivated both by geometers and mathematical physicists because of the role of these invariants in analytic torsion, index theory, and in particular in the development of topological quantum field theory where pasting laws for zeta-regularized determinants are required. In my talk, I will discuss joint work with Jinsung Park where we solve various aspects of the gluing problem for the spectral invariants on compact and noncompact manifolds. (Received July 22, 2004)