

1030-53-144

**Elton P Hsu\*** ([ehsu@math.northwestern.edu](mailto:ehsu@math.northwestern.edu)), Department of Mathematics, Northwestern University, Evanston, IL 60208. *Bismut's Formula for Heat Kernels and Its Generalizations.*

In this talk we discuss Bismut's representation for the heat kernel on a complete Riemannian manifold in terms of Brownian motion on the manifold. We will show how to generalize it to heat kernels on vector bundles. We will also discuss a few of its applications in differential geometry and stochastic analysis (Received July 30, 2007)