1062-42-236   **Wilfredo O Urbina*** (`wurbinaromero@roosevelt.edu`), Department of Mathematics and, Actuarial Sciences Roosevelt University, 430 S. Michigan Ave., Chicago, IL 60605, **Eduardo Gatto** (`aegatto@depaul.edu`), Department of Mathematical Sciences, DePaul University. 2320 N Kenmore Ave, Chicago, IL 60614, and **Ebner Pineda** (`epineda@uicm.ucla.edu.ve`), Departamento de Matemática, Decanato, de Ciencia y Tecnología. Universidad, CentroOccidental Lisandro Alvarado, Barquisimeto, Lara 3001, Venezuela. *Riesz Potentials, Bessel Potentials and Fractional Derivatives on Functions spaces for the Gaussian Measure.*

In this talk we will discuss the boundedness properties of Riesz Potentials, Bessel potentials and Fractional Derivatives on Gaussian Besov-Lipschitz spaces $B_{p,q}^{\alpha}(\gamma_d)$ and Gaussian Triebel-Lizorkin spaces $F_{p,q}^{\alpha}(\gamma_d)$. In a previous paper Gaussian Lipchitz spaces $Lip_{\alpha}(\gamma_d)$ were considered and then the boundedness of Fractional Integrals and Fractional Derivatives on them were studied in detail. We extend those results in the case of these more general function spaces with respect to the Gaussian measure. Also these results can be extended to the case of Laguerre or Jacobi expansions and even further to the general framework of diffusions semigroups. (Received August 10, 2010)