

1086-31-2955

**Lucio Prado\*** ([lprado@bmcc.cuny.edu](mailto:lprado@bmcc.cuny.edu)), 199 Chambers Street, New York, NY 10007. *p-Poisson Equations on Infinite Graphs and p-Capacity.*

The discrete version of  $p$ -potential theory on Riemannian manifolds can be adapted to infinite/finite graphs  $G$ . With introduction of the concept of  $p$ -capacity on graphs, they can be classified on  $p$ -hyperbolic and  $p$ -parabolic. This talk will focus on  $p$ -hiperbolicity and the existence of solutions of  $p$ -Poisson equations  $\Delta_p u + h = 0$  on the class of discrete  $p$ -Dirichlet functions of finite support  $\mathcal{L}_0^{1,p}(V)$ . In particular, if the time permits, related results for lattices and trees will be presented. (Received September 26, 2012)