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**Lucio M-G Prado\*** (lprado@bmcc.cuny.edu), Department of Mathematics, BMCC, The City University of New York, 199 Chambers Street, New York - NY 10007, New York, NY 10007.

*p*-Capacity and *p*-Poisson Equation. Preliminary report.

The aim of this talk is to present concepts and techniques from  $p$ -potential theory on Riemannian manifolds adapted to *infinite graphs*. We will give some overview of concepts related to  $p$ -potential theory and the states of the area on infinite graphs. In particular, we investigated the  $Z^n$ -lattice and its  $p$ -capacity to classify as  $p$ -hyperbolic or  $p$ -parabolic under specific condition in terms of  $p$ . With  $p$ -hyperbolicity / $p$ -parabolicity, we examine surjectivity of the *p-Laplacian* and the type the solution in terms of *p-Dirichlet* spaces can be obtained to specific *p-Poisson* equations.

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