SEMINARI D'ANÀLISI UAB-UB **Curs 2012–2013**

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On the conformal gauge of a compact metric space

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ABSTRACT: In this talk I will present some results about the Ahlfors regular conformal gauge of a compact metric space (X, d), and some applications regarding the computation of its conformal dimension $\dim_{AR}(X, d)$. Using a sequence of finite coverings of (X, d), we can construct distances in its Ahlfors regular conformal gauge of controlled Hausdorff dimension, obtaining in this way a combinatorial description (up to bi-Lipschitz homeomorphisms) of all the metrics in the gauge. This control of the Hausdorff dimension allows to compute $\dim_{AR}(X, d)$ using the critical exponent Q_N associated to the combinatorial modulus. I will mention some of the applications of this equality, in particular to the boundaries of hyperbolic groups.