Speaker: Christophe Dupont (Université Paris Sud)

Title: A lower bound for the dimension of invariant measures of endomorphisms of CP^2

Let f be a holomorphic endomorphism of CP^2 of degree $d \geq 2$ and ν be an ergodic invariant measure such that $\log \mathrm{Jac}(f) \in L^1(\nu)$ with positive Lyapunov exponents $\lambda_2 \leq \lambda_1$. We prove that the lower pointwise dimension of ν satisfies for ν-a.e. $x \in CP^2$:

$$\underline{\delta}(x) \geq \frac{\log d}{\lambda_1} + \frac{h(\nu) - \log d}{\lambda_2}.$$

This implies that the Hausdorff dimension of the maximal entropy measure μ satisfies $\dim \mu \geq \frac{\log d}{\lambda_1} + \frac{\log d}{\lambda_2}$, which is half of the formula conjectured by Binder and de Marco.