Eigenvalue bounds for the Paneitz operator and its associated third-order boundary operator on locally conformally flat manifolds

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In this talk I will discuss bounds for the first eigenvalue of the Paneitz operator P and its associated third-order boundary operator B^3 on four-manifolds. We restrict to orientable, simply connected, locally confomally flat manifolds that have at most two umbilic boundary components. The proof is based on showing that under the hypotheses of the main theorems, the considered manifolds are confomally equivalent to canonical models. The fact that P and B^3 are conformal in four dimensions is key in the proof.

This is joint work with Maria del Mar Gonzalez