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WORKSHOP ON GEOMETRIC PDE
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The Yamabe problem on manifolds with boundary

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We study conformal deformation of Riemannian structure to constant scalar curvature and zero mean curvature on the boundary. It is shown that if the boundary is umbilic, then the full set of solutions is compact for dimensions $n \leq 24$. Counterexamples to compactness will be constructed for dimensions $n \geq 25$. Our methods also indicate an approach for the nonumbilic case.

This is joint work with Marcelo Disconzi, and generalizes previous results of Brendle, Khuri, Marques, and Schoen from the case of manifolds without boundary.

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