A nonuniqueness result for Yamabe-type problems

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Compact Riemannian manifolds admit families of higher degree conformally covariant differential operators, related to several notions of curvature. The basic example is the conformal Laplacian, whose term of order zero is, up to a dimensional constant, the scalar curvature. Conformal covariance implies (and, infact, is equivalent to) the critical nonlinearity for these operators. I will present a general nonuniqueness result for Yamabe-type problems associated with these operators. This is a joint work with J. H. Andrade, J. Case and J. Wei.