Determinants of Laplacians and isospectrality

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The determiant of the Laplacian is a spectral invariant for Riemannian manifolds. In these three lectures, I would like to discuss this determinant as a function on the moduli space of uniform metrics on a surface with or without boundary. Here by uniform metrics we mean hyperbolic or flat metrics with appropriate boundary conditions. The properness of this determinant function on the moduli space will have implications to the isospectral problem: "Can we hear the shape of a drum?"

These lectures will explain the results in my recent preprint: http://www.math.toronto.edu/yhkim/revision-ihes-height-surface-boundary.pdf