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I will outline some of our recent results on derivations and Fredholm modules on metric spaces with Dirichlet form. These encode some topological information: for example we show that if the space is a finitely ramified fractal then there is a non-trivial Fredholm module if and only if the space is not a tree. Natural examples include p.c.f. fractals and quantum graphs. (Received August 10, 2010)