An influential paper of Bruce Driver and Leonard Gross studies L2 spaces of holomorphic functions on complex Lie groups with respect to a heat kernel measure. This paper obtains various dimension-independent estimates, thus opening the door to a similar analysis on infinite-dimensional Lie groups, beginning in the work of Maria Gordina. I will discuss some recent dimension-independent results about heat kernels on arbitrary manifolds. This is joint work with Matt Cecil. (Received September 17, 2010)