Periods of automorphic forms have an important place in the theory of automorphic representations. They are often related to (special values of) L-functions and have applications to arithmetic geometry and analytic number theory. For an automorphic form on a group G, a period is its integral over a subgroup of G. If the automorphic form is not cuspidal such integrals are usually divergent. It is nonetheless possible in many cases to extend the definition of the period to almost all automorphic forms which has direct applications to the study of the given period. In this talk I will describe a general procedure of defining such periods in the case when the subgroup is reductive.

I will also discuss the joint work with A. Pollack and C. Wan that applies this to the study of certain periods and their relations to special values of L-functions confirming predictions of Sakellaridis and Venkatesh.