Computing Periods of Hypersurfaces

The periods of an algebraic variety $X$ are obtained by integrating holomorphic forms of $X$ over integral homology classes in $X$. Periods of a variety encode explicit geometric information about that variety, often in a way that is more revealing than the equations alone. However, period computation is difficult and, until recently, an automated process existed only for the computation of periods of plane curves. In this talk, we will give an algorithm which computes the periods of a smooth projective hypersurface of any dimension.