abstract

COMPLEX ALGEBRAIC GEOMETRY
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

First we define, for any analytic manifold X of dimension n, locally residual currents; $C^{q,p}$ denotes the sheaf of locally residual currents of bidegree (q,p). Then, we have a fundamental resolution of the sheaf of holomorphic $q-$forms $$0\to \Omega^q\to C^{q,0}\to C^{q,1}\to \dots,$$
where the arrows $C^{q,i}\to C^{q,i+1}$ are given by $\overline\partial$.

The situation is then the following: we assume that X is irreducible projective in the projective space P^N, and let be given $n-p$ hyperplanes in P^N intersecting properly on X. For a domain U^* of the grassmannian $G(N-n+p,N)$, we define a domain $U\subset X$ as $\cup_{t\in U^*}{(H_t\cap X)}$. Then we have the following:

{\bf Theorem.}
{The cohomology $H^j(U,\Omega^q)$ for $j<p$ can be computed by the preceding complex of locally residual currents, by taking sections over U; moreover, the sections are "algebraic", in the sense that they extend to the whole X as locally residual currents. For $j=p$, let us give a cohomology class $\alpha\in H^p(U,\Omega^q)$ given by a locally residual current (they give no more all the classes); and assume that the image in $V:=\cup_{t\in U^*}{H_t}\subset P^N$ is $\overline\partial-$exact. Then α is algebraic, in the sense that it comes from a locally residual current on X.}