1104-53-118 **Thomas A Ivey*** (iveyt@cofc.edu). *Stark Hypersurfaces in Complex Projective Space.* Preliminary report.

Harvey and Lawson showed that $M \subset \mathbb{R}^n$ is austere (i.e., its normal bundle is special Lagrangian in $T\mathbb{R}^n \cong \mathbb{C}^n$) iff all odd-degree symmetric polynomials in the eigenvalues of the second fundamental form (in any normal direction) vanish. For $M \subset \mathbb{C}P^n$ the austerity condition (relative to the Stenzel metric on $T\mathbb{C}P^n$) along a normal direction ν involves the eigenvalues of both the second fundamental form in the direction of ν and its restriction to the subspace of the tangent space orthogonal to $J\nu$. This condition simplifies when M is a hypersurface (i.e., of real codimension one), but these remain unclassified, even for $n = 2$.

In this talk I'll discuss a novel class of hypersurfaces in $\mathbb{C}P^n$ which fulfil both the austerity condition relative to the Stenzel metric and the Euclidean austerity condition. Preliminary computations indicate that these exist for arbitrary n, are fibered by totally geodesic $\mathbb{R}P^n$'s, and are determined by solutions of a compatible system of total differential equations. So far, these are the only known examples of austere hypersurfaces in these spaces. (Received August 26, 2014)