



Prof. Yi-Jung Hsu / Department of Applied Mathematics

Differential Geometry

My primary research interests include the following major parts:

- (a) **Eigenvalue problem:** Estimates of the first eigenvalue for compact or complete Riemannian manifolds, gap between closed eigenvalues, compare Dirichlet and Neumann eigenvalues.
- (b) **Global pinching problem:** For constant mean curvature hypersurfaces, minimal hypersurfaces, and Willmore hypersurfaces in the unit sphere.
- (c) **Construct** algebraic minimal hypersurfaces of degree 3 and 4 in the unit sphere.
- (d) **Existence Problem** of harmonic morphisms.