

**Title :** Holomorphic immersions among projective spaces and proper holomorphic mappings among generalized balls

**Abstract:**

A generalized ball is a domain on  $\mathbb{P}^n$  defined by

$$\mathbb{D}_n^\ell := \{[z_0, \dots, z_n] \in \mathbb{P}^n : |z_0|^2 + \dots + |z_\ell|^2 \geq |z_{\ell+1}|^2 + \dots + |z_n|^2\}.$$

The name originates from the fact that  $\mathbb{D}_n^0$  is the just ordinary complex unit  $n$ -ball embedded in  $\mathbb{P}^n$ . On the other hand, for  $\ell \geq 1$ , a generalized ball contains complex projective subspaces and such feature makes it fundamentally different from the complex unit ball. In this talk, we will see how a classical theorem of Feder about holomorphic immersions between two projective spaces can be used to obtain rigidity of proper holomorphic mappings between generalized balls.