**THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY**

Department of Mathematics

**SEMINAR ON PDE**

Frankel property and Maximum Principle at Infinity for complete minimal hypersurfaces

Prof. Jose M. Espinar
Universidad de Cadiz, Spain

**Abstract**

We extend Mazet's Maximum Principle at infinity for parabolic, two-sided, properly embedded minimal hypersurfaces, up to ambient dimension seven. Parabolicity is a necessary condition in dimension $n \geq 4$, even in Euclidean space, as the example of the higher-dimensional catenoid shows. Next, inspired by the Tubular Neighborhood Theorem of Meeks-Rosenberg in Euclidean three-space we focus on the existence of an embedded $\epsilon$-tube when the ambient manifold $M$ has non-negative Ricci curvature. These results will allow us to establish Frankel-type properties and to extend the Anderson-Rodriguez Splitting Theorem under the existence of an area-minimizing mod(2) hypersurface $\Sigma$ in these manifolds $M$ (up to dimension seven), the universal covering space of $M$ is isometric to $\Sigma \times \mathbb{R}$ with the product metric.

**Date:** 26 October 2023 (Thursday)

**Time:** 4:30pm

Zoom Meeting: [https://hkust.zoom.us/j/94135776085](https://hkust.zoom.us/j/94135776085) (Passcode: 794539)

*All are Welcome!*