Palestrante: Jefferson Abrantes dos Santos
Instituição: UFCG
Título: Uniform Lipschitz estimates on the interface for solutions to two-phase free boundary problems governed by non-uniformly elliptic operator

Resumo: We will deal with a two-phase free boundary problem involving a degenerate non-uniformly elliptic operator with Φ-Laplacian type growth. We prove Lipschitz regularity for minimizers by controlling the negative phase density along the free boundary. It is also shown that the region where the local Lipschitz regularity fails is contained in the contact set between the positive and negative free boundaries and there the negative phase is cusp free. As an application, we prove Lipschitz regularity for a two-phase free boundary problem driven by the infinity Laplacian operator by studying the behavior of an ℓ-two-phase free boundary problem as $\ell \to 0^+$.