

## **A free boundary problem of two-phase type related to the fractional Laplacian**

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### **Abstract:**

In this talk, I will discuss a non-local free boundary problem of two-phase type, related to the fractional Laplacian. In particular, I will discuss the optimal regularity and the separation of phases. It turns out that certain non-local problems differ from their local siblings, in the sense that the two phases can never meet. This is a joint project with Mark Allen and Arshak Petrosyan.