

Speaker: **Roberta Bianchini** (CNR-IAC, Rome)

Title: *Finite-time singularity formation for scalar stretching equations*

Summary: We consider equations of the type: $\partial_t \omega = \omega R(\omega)$, for general linear operators R in any spatial dimension. We prove that such equations almost always exhibit finite-time singularities for smooth and localized solutions. Singularities can even form in settings where solutions dissipate an energy. Such equations arise naturally as models in various physical settings such as inviscid and complex fluids. This is joint work with Tarek Elgindi.