

## **A quantitative approach to the Navier-Stokes equations**

Tobias Barker

*University of Warwick*

tobiasbarker5@gmail.com

Christophe Prange

*CNRS, Cergy Paris Université*

christophe.prange@u-cergy.fr

It remains open as to whether or not the 3D Navier-Stokes equations lose smoothness ('blow-up') in finite time. Very recently, Terence Tao used a new quantitative approach to infer that certain 'slightly supercritical' quantities for the Navier-Stokes equations must become unbounded near a potential blow-up time. In this talk I'll discuss a new strategy for proving quantitative bounds for the Navier-Stokes equations, as well as applications to behaviours of potentially singular solutions.