

Speaker: Luca Franzoi (New York University Abu Dhabi)

Title: **Quasi-periodic steady invariant structures in incompressible fluids**

Abstract: In this talk, I present a recent result about the existence of nontrivial steady flows in the bounded channel that are quasi-periodic in horizontal space direction and solve the incompressible Euler equation. Such solutions bifurcate from a prescribed shear equilibrium near the Couette flow, whose profile induces finitely many modes of oscillations in the horizontal direction that may be resonant, leading to a small divisor problem. First, I recall the result of Lin and Zeng and their construction of space periodic flows. Then, I introduce the key ingredients in our setting and state the main result for space quasi-periodic flows. Finally, I show what are the main issues in our strategy and how to solve them.

This is a joint work with Nader Masmoudi and Riccardo Montalto