



Applied and Computational Mathematics Seminar

Title: Waves and wrinkles through the lens of asymptotic analysis

Speaker: Anthony Bonfils (University of Limerick)

Date: Fri 11th April 2025 at 1:00PM

Location: E0.32 (beside Pi restaurant)

Abstract: The linear stability of a two-fluid interface forced by a shear flow, or of a floating elastic sheet under confinement, is characterized by an eigenvalue problem. In the first case, the problem is dynamic and of second order. In the other case, it is static and of fourth order. I will show how asymptotic methods provide a physical insight on the various solutions of both problems, and subsequently on the phenomenology of waves and wrinkles.

References: J. Fluid Mech., 944:A8, 2022 J. Fluid Mech., 976:A19, 2023 Soft Matter, 19, 8729, 2023