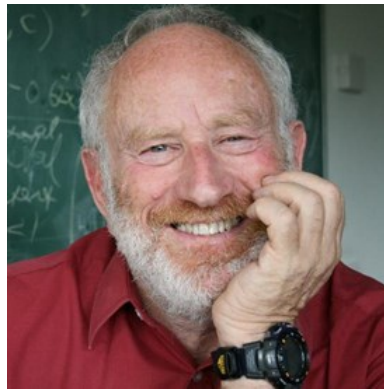MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MATHEMATICS

Applied Math Colloquium

Monday, February 24, 2020

4:15pm   Room : 2 - 190

Herbert Huppert
(University of Cambridge)

"Stokes drift over coral layers: theory, field confirmation and biological significance."

Abstract

The long-term propagation of fluid particles in waves at the interface of a water layer with air above and an impermeable horizontal boundary below Is the purely horizontal, second order, Stokes drift velocity, which decreases exponentially with depth. We will discuss the differences that arise If the impermeable bottom is replaced by a porous, coral, layer, for which the resulting Stokes velocity has a vertical component in both coral and fluid layer.

We shall describe the resulting and significant biological consequences for nutrients, prey and larvae.