

**Wave-structure interactions****Authors:**

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**Abstract:** The mathematical description of free surface flows through the water waves equations or simpler asymptotic models such as the nonlinear shallow water equations is well understood. This talk will focus on the mathematical analysis of wave structure interactions, in which these equations are considered in the presence of a partially immersed object. New difficulties arise such as the presence of a (possibly free) boundary for the surface of the fluid and the presence of singularities in the fluid domain.

**References:**