



ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ

ΣΧΟΛΗ ΕΦΑΡΜΟΣΜΕΝΩΝ ΜΑΘΗΜΑΤΙΚΩΝ & ΦΥΣΙΚΩΝ ΕΠΙΣΤΗΜΩΝ

Τομέας Μαθηματικών

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Δ Ι Α Λ Ε Ξ Η

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Τίτλος : «**Modelling and simulations of water wave propagation**»

Περίληψη : Dispersive water wave models are used as models for applications arising from the areas of coastal and naval engineering, but also from natural hazards assessment (e.g., tsunami propagation and landing). We start by reviewing a family of such models and present their main characteristics. Although finite volume schemes are commonly used to construct approximate solutions to conservation laws, we extend the framework of the finite volume methods to dispersive water wave models, in particular to Boussinesq type systems. We focus mainly on the application of the method to bidirectional non-linear, dispersive wave propagation in one space dimension. Special emphasis is given to important nonlinear phenomena such as solitary waves interactions and the run-up of breaking and non-breaking long waves.

Η ομιλία θα δοθεί την **Τετάρτη 26 Οκτωβρίου 2016** και ώρα **12:45** , στην Αίθουσα Σεμιναρίων του Τομέα Μαθηματικών, κτ. Ε΄, 2ος όροφος.

Η Επιτροπή Σεμιναρίων