

INTERNATIONAL PHD COURSE

Contents



"CIVIL AND ENVIRONMENTAL ENGINEERING"

SEMINAR

"BOUSSINESQ MODELS: NEW APPROACHES AND APPLICATIONS TO COASTAL MODELLING"

By

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June 20th 10:00-12:00

Aula Caminetto

- 1) Introduction of the fundamental equations
- 2) the Boussinesq equations
- 3) limits of the classical approaches
- 4) benefits of the new approaches
- 5) the numerical integrations
- 6) benchmarking
- 7) examples of practical applications
- 8) open issues
- 9) suggestion for future researches
- 10) concluding remarks.

Theophanis V. Karambas is Associate Professor of Coastal Engineering at Civil Engineering Department of Aristotle University of Thessaloniki. He graduated from the above Department and his PhD thesis subject was: 'Mathematical Description of the Non-Linear Dispersive Wave Propagation in the Coastal Zone'. His research interests are: Numerical Models in Coastal Engineering, Non Linear Wave Theories, Wave Propagation in the Nearshore Area, Wave Breaking and Runup, Sediment Transport in the Surf and Swash Zone, Coastal Morphology, Long Waves, Coastal Structures, Pollutant Dispersion and Diffusion in Coastal Areas. He has more than 150 publications in scientific journals and conferences.



<http://en.wikipedia.org/>: Joseph Valentin Boussinesq: (13 March 1842 – 19 February 1929) was a French mathematician and physicist who made significant contributions to the theory of hydrodynamics, vibration, light, and heat. In 1871, Boussinesq published the first mathematical theory to support Russell's experimental observation on solitons, and in 1877 introduced the KdV equation. In 1876, Lord Rayleigh published his mathematical theory to support Russell's experimental observation. At the end of his paper, Lord Rayleigh admitted that Boussinesq's theory came before his.

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