

Haider Hasan

Contact Information

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Research Interests

Mathematical, numerical and computational modelling especially of nearshore hydrodynamics and morphodynamics.

Education

University of Nottingham, Nottingham, UK

Ph.D. in Civil Engineering (**graduation date: July 2007**)

- Title of Thesis: “Nearshore Hydrodynamical Instabilities” (Supervisor: Prof. N. Dodd)
Summary: Two distinct investigations stemming from two different types of nearshore coastal hydrodynamical situations were made in the thesis. The first investigation developed a simple linear stability model to numerically simulate shear instabilities of the longshore current, which allowed depth variations within the current. The second investigation made, utilised a complex 2D nearshore morphodynamical model known as MORFO60 in its hydrodynamical mode. The model was used to investigate 2D wave generated instabilities, which lead to the formation of rip currents and edge waves, for incoming wave normal to the shoreline.

University of Bristol, Bristol, UK

MSc in Industrial and Environmental Modelling, **2001 - 2002**

- Modules: Fluid Dynamics, Industrial and Environmental Flows, Asymptotics, Waves and Instabilities, Advanced Numerical Methods and Non-Linear Dynamics and Chaos.
- Title of MSc Dissertation: “Reducing Evaporation in Lakes” (Supervisor: Dr. A. Hogg)

Kingston University, Kingston Upon Thames, UK

BSc(Hons) in Mathematics and Computing, **1998 - 2001**

- Title of Final Year Dissertation: “Modelling of Waves in Harbours and Inlets” (Supervisor: Dr. P. Soan)

Research Grants

EPSRC (Engineering and Physical Sciences Research Council) PhD Studentship.

NERC (Natural Engineering Research Council) MSc Studentship with supplementary funding for MSc project provided by Rio Tinto (multinational mining and exploration company)

Publications

Hasan, H, N. Dodd and R. Garnier, 2009, Stabilizing Effect of Random Waves on Rip Currents, Journal of Geophysical Research (Oceans), 114 (C07010)