

Nirnimesh Kumar

PhD Candidate in Marine Science Program

Education

MS, Geological Sciences, University of South Carolina, US, 2008-2010

B.Tech, Ocean Engineering and Naval Architecture, Indian Institute of Technology, Kharagpur, India, 2007



Research Interests

My research focuses on development and application of coupled wave-current model system (ROMS-SWAN) to understand surf zone processes.

Publications:

- (1) **Kumar, N.**, Voulgaris, G. and J.C. Warner. Implementation of an updated radiation stress formulation and applications to nearshore circulation, *submitted to Ocean Modeling*.
- (2) Ebenezer, D.D., **Nirnimesh, K.**, Barman, R., Kumar, R., and S.B. Singh, 2007. Analysis of solid elastic cylinders with internal losses using complete sets of functions, *Journal of Sound and Vibration*, Vol. 310, pp 197-216.

Presentations:

- (1) Warner, J.C., B.N. Armstrong, M. Olabarrieta, R. He, J.B. Zambon, G. Voulgaris, **N. Kumar** and K A Haas, 2010. Development and Application of a Coupled-Ocean-Atmosphere-Waves-Sediment Transport (COAWST) Modeling System for Nearshore Environments. AGU 2010 Ocean Sciences Meeting, Abstract No PO13B- 01, Portland, OR, USA. (Invited).
- (2) **Kumar, N.**, G .Voulgaris and J.C. Warner, 2010. Using Coupled Wave Current Models to Simulate and Predict Rip Currents. AGU 2010 Ocean Sciences Meeting, Abstract No PO15E-12, Portland, OR, USA.
- (3) Voulgaris, G., **N. Kumar**, J.C. Warner, K.A. Haas, Y. Uchiyama and J.C. McWilliams, 2010. Applications of Regional Ocean Modeling System (ROMS) for Surf Zone Environment. AGU 2010 Ocean Sciences Meeting, Abstract No PO13B-02, Portland, OR, USA.

- (4) **Kumar, N.**, G. Voulgaris and J.C. Warner, 2010. Predicting Rip Currents Using a 3-D Numerical, Coupled Wave-Current Model. 1st International Rip Current Symposium, Florida International University, February 17-19, 2010, Miami FL.
- (5) Voulgaris, G. and **N., Kumar**, 2009. Surfzone hydrodynamic measurements and modeling: Towards a rip-current potential hazard prediction tool. Nortek User Symposium, May 13-15, 2009, St. Augustine, FL.
- (6) **Kumar, N.**, G. Voulgaris and J.C. Warner, 2008. Impact of Synoptic Meteorological Variations on Nearshore Hydrodynamics. Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract OS13D-1206.
- (7) **Kumar, N.** and G. Voulgaris, 2008. Surf zone response to weather fronts along the South Carolina coast. SECOM, May 12, 2008, Columbia, SC.
- (8) **Kumar, N.**, 2008. Analysis, modeling and forecasting of Nearshore Circulation. Graduate Day Presentation, University of South Carolina.