Date: **March 21**

Time: **11:00 AM**

Location: **Ames 234**

Speaker: **Dr. Philip L.-F. Liu**
School of Civil and Environmental Engineering
Cornell University

Title: **"Modeling of Breaking Waves in surf and swash zone"**

Abstract

This talk will describe the development of a numerical model for studying the evolution of a wave train shoaling and breaking in surf and swash zone. The model solves the Reynolds Averaged Navier Stokes (RANS) equations for mean (ensemble average) flow field and transport equations for the turbulent kinetic energy and the turbulent dissipation rate. A nonlinear Reynolds stress model is employed to relate Reynolds stresses and strain rates of the mean flow. To track the free surface movements, the volume of fluid method (VOF) is used. The numerical model has been checked with the existing laboratory data in the surf zone. A new set of laboratory experiments in the swash zone has been carried out at Cornell. A brief description of the experimental results will be presented in this talk. The future plan for validating the numerical model using the swash zone data will be discussed.