

**Speaker:** Professor Sijue Wu, University of Michigan

**Title:** Almost global wellposedness of the 2-D full water wave problem

**Abstract:**

We consider the problem of global in time existence and uniqueness of solutions of the 2-D infinite depth full water wave equation. It is known that this equation has a solution for a time period  $[0, T/\epsilon]$  for initial data of form  $\epsilon\Psi$ , where  $T$  depends only on  $\Psi$ . We show that for such data there exists a unique solution for a time period  $[0, e^{T/\epsilon}]$ . This is achieved by better understandings of the nature of the nonlinearity of the full water wave equation.