

## Applied Mathematics Seminar

### *The Steepest Traveling Interfacial Waves*

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**Abstract:** New methods for computing extremely steep traveling waves at the interface between two fluids are presented. These waves are periodic solutions of the vortex sheet formulation of the potential flow equations, and are parameterized by arclength. The traveling wave ansatz is developed for such interfaces (Akers, Ambrose & Wright, 2013). Traveling waves are computed in which the interface is a multivalued function in cartesian coordinates. Numerical continuation methods are used to compute the surfaces, in parameter space, where these traveling waves exist. A new globally largest traveling water wave is computed (Akers, Ambrose & Wright, 2014). The role of local and global bifurcation theorems in computational explorations of parameter space is discussed.

Monday, February 23 at 4:00 PM in SEO 636