CATHERINE SULEM, University of Toronto
Surface water waves over bathymetry

We examine the effect of a periodic bottom on the free surface of a fluid linearized near the stationary state, and we develop a Bloch theory for the linearized water wave system. This analysis takes the form of a spectral problem for the Dirichlet - Neumann operator of the fluid domain with periodic bathymetry. We find that, generically, the presence of the bottom results in the splitting of double eigenvalues creating a spectral gap. (joint work with W. Craig, M. Gazeau, C. Lacave).