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**Vera Mikyoung Hur\*** ([verahur@math.uiuc.edu](mailto:verahur@math.uiuc.edu)), 1409 W Green Street, University of Illinois at Urbana-Champaign, Department of Mathematics, Urbana, IL 61801. *Rotational Stokes waves.*

I will speak on traveling waves on the surface of a liquid body under the influence of gravity. I will begin by giving a precise account of the formulation of the surface water-wave problem and discuss its defining features. Particular emphasis is on the effects of the vorticity. Stokes waves refer to as traveling periodic waves whose profile rises and falls exactly once per wavelength. I will describe my recent work on their existence of all amplitudes for a general class of vorticities with some ideas of proof. If time permit, I will discuss on the limiting wave. (Received August 21, 2009)