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**Speaker:** Marcelo Disconzi  
Vanderbilt University

Tuesday, March 21, 2017

11:00 AM

258 Hurley Hall

**Title:** Existence, regularity, and convergence results for free-boundary Euler equations

**Abstract:**

We study the incompressible free boundary Euler equations with surface tension in three spatial dimensions. We establish existence and uniqueness of solutions to the initial value problem. Then, we prove that under natural assumptions, solutions of the free boundary motion converge to solutions of the Euler equations in a domain with fixed boundary when the coefficient of surface tension tends to infinity. Finally, we present new a priori estimates for smooth solutions to the free-boundary equations.