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## Compressible and Incompressible Free-Boundary Euler Equations: Existence and Convergence Results

## **Prof. Chenyun Luo** Vanderbilt University

## <u>Abstract</u>

Introduced in 1757 by Leonhard Euler, Euler Equations are still one of the most important and widely studied equations in mathematics and physics. Nevertheless, despite being more than 250 years old and the great amount of work dedicated to them, the Euler Equations are far from being well-understood. In fact, many basic questions are still unanswered.

In this talk, we will discuss a recent result which proves that the motion of a "slightly compressible" free-boundary liquid is near that of an incompressible one when the surface tension is taken into account. The strategy is to derive a uniform energy estimate of the free-boundary compressible Euler Equations as the "compressibility" of the liquid tends to zero.

Date:2 January 2020 (Thursday)Time:10:00am – 11:00amVenue:Room 222, Lady Shaw Building,<br/>The Chinese University of Hong Kong, Shatin

## All are Welcome