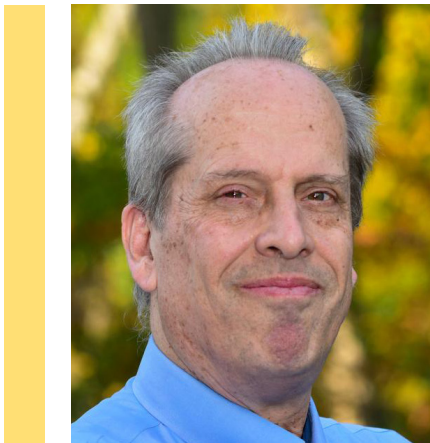




## HISTORY OF THE EQUATIONS OF FLUID DYNAMICS

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Thursday , September 28, 2023 | 3 pm

DeWalt Seminar Room  
2164 Glenn L. Martin Hall

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*Speaker*

**DR. CHARLES D. LEVERMORE**

Professor

Department of Mathematics and IPST  
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### ABSTRACT

The dynamics of fluids has been modeled by systems of partial differential equations ever since Euler derived the first such systems in 1755. These systems evolved into their modern form over the next two hundred years, changing form to incorporate our growing understanding of thermodynamics, molecular theory and statistical mechanics. These developments dramatically split along two paths during the last half of the nineteenth century only rejoined in the early twentieth century. Continuum fluid dynamical models are now understood as limits of molecular models. Models for incompressible flow are now understood as limits of models for compressible flow.

### BIO

Charles David Levermore is a Professor at the Department of Mathematics and IPST, University of Maryland. He graduated from the Clarkson College in 1974 with Bachelor's and Master's degrees in Mathematics and Physics, followed by a Ph.D. in Mathematics from the Courant Institute, New York University in 1982. His major research focus has been around the central theme of understanding how large-scale behaviors emerge from dynamics or structures on smaller scales. This spans topics on multiscale problems such as macroscopic description of a system of large number of particles using known microscopic physics, derivation of fluid dynamical systems from kinetic theories and turbulence modeling to name a few.

