

The University of South Florida Department of Mathematics and Statistics  
presents

# Mathematics of Turbulent Flows: A Million Dollar Problem!

Turbulence is a classical physical phenomenon that has been a great challenge to mathematicians, physicists, engineers and computational scientists. Chaos theory has been developed in the end of the last century to address similar phenomena that occur in a wide range of applied sciences, but the eyes have always been on the big ball - Turbulence. Controlling and identifying the onset of turbulence has a great economic and industrial impact ranging from reducing the drag on cars and commercial airplanes to better design of fuel engines, weather and climate predictions.

It is widely accepted by the scientific community that turbulent flows are governed by the Navier-Stokes equations, for large values of the Reynolds numbers. As such, the Navier-Stokes equations form the main building block in any fluid model, in particular in global climate models. As one of the most challenging mathematical problems, it was identified by the Clay Institute of Mathematics as one of the seven most outstanding Millennium Problems in mathematics, with one million US dollars prize for solving it. In his talk, Professor Titi will describe the main challenges that the different scientific communities are facing while attempting to solve this problem. Lecture is free and open to the public and refreshments will be provided.

**Thursday, April 14, 2016**  
**MSC 3707**  
**12:30 to 1:30 p.m.**



Dr. Edriss Titi is the Owen Distinguished Professor of Mathematics at Texas A&M University, Professor at the Weizmann Institute of Science (Israel), Fellow of the Society for Industrial and Applied Mathematics, and a recipient of the Humboldt Research Award for Senior US Mathematicians.

[math.usf.edu](http://math.usf.edu)

**Contact:**  
Department of Mathematics & Statistics  
Phone (813) 974-2643



Department of Mathematics & Statistics

If you need special accommodations,  
please email [cvgoldstein@usf.edu](mailto:cvgoldstein@usf.edu).