



Athens Journal of Technology & Engineering

Volume 4, Issue 4, December 2017

Special Issue on Fluid Dynamics

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President's Message

The Athens Institute for Education and Research (ATINER) is pleased to announce the publication of a number of peer reviewed, open access journals of original research work. Most of the articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different research divisions and units of the Athens Institute for Education and Research. The plethora of papers presented every year will enable the editorial board of each journal to select the best, and in so doing produce a top quality academic journal. In addition to papers presented, ATINER will encourage the independent submission of papers to be evaluated for publication.

The current issue is the fourth from the fourth volume of the [*Athens Journal of Technology & Engineering*](#) published by the [Engineering & Architecture Research Division](#) of the Athens Institute for Education and Research (ATINER).

The Head of the [Engineering & Architecture Research Division](#) is member of the Editorial Advisory Board. The Academic Members of the research unit are members of the Editorial Board and will assist the editor and the Editorial Advisory Board with the peer reviewing of all submitted papers. Currently, the academic members of the five research units consist of over 100 international experts from about 50 countries.

Gregory T. Papanikos

President

Athens Institute for Education and Research

Special Issue on Fluid Dynamics: An Introduction

This special issue includes technical papers that were peer-reviewed, accepted and orally presented in the Twelfth International Conference of Fluid Dynamics (ICFD12)", 19-20 December, 2016, Le Méridien Pyramids Hotel, Cairo, Egypt. Fluid dynamics is a sub-subject of fluid mechanics that designates the flow of fluids. Usually, fluids are divided into liquids and gases. Consequently, fluid dynamics has several branches, e.g., aerodynamics, and hydrodynamics, turbomachinery, propulsion, etc. Fluid dynamics covers a wide range of applications, including calculating forces and moments on vehicles (aircraft, automotive, train), determining the mass flow rate and pressure of liquids (petroleum) through pipelines, predicting weather patterns, etc. Fluid dynamics offers a systematic configuration to embrace empirical and semi-empirical laws derived from flow measurement as well as schemes of computational techniques to solve practical problems. By definition, investigation of fluid dynamics problems naturally involves the calculation of various properties of the fluid, such as flow velocity, pressure, density, and temperature, as functions of space and time.

