



Application of Computational Fluid Dynamics in Mechanical Engineering

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Message from the Collection Editor

Turbulence is probably the one open problem in physics with the most applications in daily life. Even although the equations controlling fluid flow, the Navier–Stokes equations, have been known for more than 150 years, relatively little is known about the physics behind turbulent flows. The bad news is that turbulence is persistent in mechanical engineering. Almost all flows of interest are turbulent. The good news is that several excellent models have been developed in the last 50 years that allow us to obtain excellent results. A great variety of RANS methods can compute mean values of very complex flows. Moreover, with the continuous development of computational power, LES methods can be used now to increase our knowledge of extremely complex flows of interest in mechanical engineering. The list of flows where CFD is applied is longer every year: rocket engineering, aerodynamics, reciprocating engines, wind energy, etc.

This Special Issue will reflect the works in these fields, focusing on applications more than theoretical methods. Any work showing new insights into the fascinating world of CFD is warmly welcome.





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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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