Special Issue

Applications of Computational Fluid Dynamics to the Built Environment

Message from the Guest Editors

The use of computational fluid dynamics simulations in modeling the built environment is at the cutting edge of analysis and design in civil and infrastructure engineering. With advances in modeling techniques and computational power, the opportunities for modeling wind–structure interaction, fire and smoke spread, thermal comfort and efficiency, and acoustics of facades and buildings have never been greater. The advantages of CFD modeling over traditional methods (such as wind tunnel tests and full-scale fire testing) are significant. Modeling can be done at full-scale with minimal cost, modifications to the model can be made with speed and ease, and modeling can be done earlier in the design phase of a project and thus can inform the design process. Challenges associated with CFD modeling are also well documented, most notably the challenges of validating models. This Special Issue welcomes papers within the broad field of computational fluid dynamics for the built environment.

Guest Editors

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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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