Special Issue

Laminar and Turbulent Boundary Layers

Message from the Guest Editors

The transition from laminar to turbulent boundary layer flow remains one of the most captivating and consequential phenomena in fluid mechanics. It profoundly influences drag, heat transfer, and flow control across various engineering applications, ranging from aerospace and automotive design to energy systems and environmental flows. This Special Issue invites contributions providing cutting-edge transition research, bridging the gap between fundamental analyses and engineering applications. We welcome original research articles, comprehensive reviews, and position papers covering topics such as the following:

- Linear and nonlinear stability analyses;
- Direct numerical simulations (DNS) and large-eddy simulations (LES);
- Influence of surface roughness, geometric discontinuities, and freestream turbulence;
- Advanced transition control strategies and novel tripping techniques;
- Experimental approaches and high-resolution measurement methodologies;
- Multidisciplinary frameworks involving data-driven modeling, machine learning, or adaptive simulations;

Guest Editors

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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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