

Special Issue

Application and Simulation of Fluid Dynamics in Pipeline Systems

Message from the Guest Editors

Pipeline systems are crucial in numerous industries, including oil and gas, water distribution, and chemical processing. Simulating various phenomena related to fluid flow in these pipes is essential for optimizing performance, ensuring safety, and preventing issues such as leaks or blockages. This Special Issue, entitled “Application and Simulation of Fluid Dynamics in Pipeline Systems”, welcomes submissions of recent research works which explore advances in fluid dynamics within pipeline systems, emphasizing innovative computational techniques and practical applications. Potential topics include, but are not limited to, the following:

- Unsteady pipe flow modeling;
- Pressure surges and water hammer effects;
- Multiphase pipe flow;
- Fluid–structure interaction in pipeline dynamics;
- Leak detection and prevention strategies;
- Heat transfer and thermal effects in fluid transport;
- Flow optimization in complex pipeline networks;
- Energy efficiency in pipeline systems;
- AI-driven techniques in fluid dynamics.

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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