Special Issue

Pipeline Fluid Mechanics 2020

Message from the Guest Editor

The fluid flow dynamics through a pipe is a basic fluid mechanics problem, which occurs in many industrial applications. This basic geometry is not only found in the transportation of goods and/or materials, such as oil, gas, and water, but also used as a building block to model more complex flows, such as those in teleheating systems, heat exchangers, mixing chambers, product changeover, as well as in biomedical applications. Though simple in geometries, they possess very fundamental yet complex fluid flow physics with practical importance. For instance, for internal flow in pipes, a curvature may cause a dean flow, and/or with internal perturbation/friction, the flow may undergo laminar to turbulent transition. This significantly alters the pressure head loss, mixing, as well as wall heat transfer. Alternatively, a multiphase or an aggressive fluid flow inside a pipe may cause fluid-induced vibration and/or corrosion, pipe failure, and, as a consequence, an environmental hazard. Flow around the pipelines may also cause vortex-induced vibrations and affect other nearby pipes and infrastructure.

Guest Editor

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Deadline for manuscript submissions

closed (28 February 2021)

Water

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0

mdpi.com/si/47381

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In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

Editor-in-Chief

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