



an Open Access Journal by MDPI

Industrial Applications of Computational Fluid Dynamics, 2nd Edition

Guest Editors:

Prof. Dr. Edward Lisowski

Department of Applied Informatics, Cracow University of Technology, ul. Warszawska 24, 31-155 Cracow, Poland

Dr. Filip Lisowski

Faculty of Mechanical Engineering, Cracow University of Technology, Jana Pawła II 37, 31-864 Cracow, Poland

Dr. Grzegorz Filo

Faculty of Mechanical Engineering, Cracow University of Technology, Jana Pawła II 37, 31-864 Cracow, Poland

Deadline for manuscript submissions:

closed (20 July 2024)



mdpi.com/si/178397

Message from the Guest Editors

It is our pleasure to invite you to submit articles for inclusion in this Special Issue of Applied Sciences on the field of computational fluid dynamics (CFD).

Hydraulic and pneumatic drives are widely used in vehicles, working machines, and various industrial devices. Research using CFD may study flow simulations, strength analyses, fatigue and thermal calculations, and interaction with solid elements. The results are of great theoretical and practical importance since they can be widely used in industrial settings.

The Special Issue is primarily focused, but not limited to, the following topics:

- Hydraulic and pneumatic system flow simulations using CFD;
- Hydraulic system optimization involving CFD and/or genetic algorithms;
- CFD simulations with the fluid–structure interaction technique;
- Geometrical optimization of pressure valves and directional valves;
- Combining CFD simulations with neural networks and fuzzy logic;
- Calculation of flow losses through hydraulic components;
- Estimation of hydrodynamic reactions;
- Fatigue tests of pump bodies, valve bodies and motor bodies.



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica,
Politecnico di Milano, Piazza L.
da Vinci 32, 20133 Milano, Italy

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, Embase, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)

Contact Us

Applied Sciences Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/applsci
appls@mdpi.com
[X@Appls](https://twitter.com/appls)