

Computational Fluid Dynamics

Commonly used acronym: CFD

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Organisation

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Geographical Area Flemish Region

SCOPE OF THE METHOD

The Method relates to	Animal health, Environment, Human health
The Method is situated in	Translational - Applied Research
Type of method	In silico

DESCRIPTION

Method keywords

computational fluid dynamics

in silico

Mathematical modeling

Numerical method

Scientific area keywords

Biomedical Engineering

biomechanics

Medical physics

Bio-engineering

Method description

Computational Fluid Dynamics (CFD) is being applied to characterize the fluid flow in different applications. CFD has obtained significant interest in both the medical and engineering community because of its non-invasive character. It can predict the fluid flow characteristics when one or multiple input flow variables are changed. In addition, it permits investigation of different flow variables and fluid forces to a level of fine detail.

Method status

Still in development

Published in peer reviewed journal

PROS, CONS & FUTURE POTENTIAL

Advantages

- Time consuming ;
- Ethics aspects (for human and animals) ;
- Cost reduction ;
- Quick assessment of design variations ;
- Possibility of simulation for different conditions ;
- Comprehensive information.

Challenges

Can be developed more and more always.

REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

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