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Modelling swimming hydrodynamics to enhance performance

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Swimming assessment is one of the most complex but outstanding and fascinating topics in biomechanics. Computational fluid dynamics (CFD) methodology is one of the different methods that have been applied in swimming research to observe and understand water movements around the human body and its application to improve swimming performance.

CFD has been applied attempting to understand deeply the biomechanical basis of swimming. Several studies have been conducted willing to analyze the propulsive forces produced by the propelling segments and the drag force resisting forward motion.

CFD technique can be considered as an interesting new approach for evaluation of swimming hydrodynamic forces, according to recent evidences. In the near future, as in the present, CFD will provide valorous arguments for defining new swimming techniques or equipments.

Key words: CFD, swimming, evaluation