CFD AND SWIMMING: PRACTICAL APPLICATIONS

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In this presentation topics in swimming simulation from a computational fluid dynamics perspective are discussed. This perspective means emphasis on the fluid mechanics and computational fluid dynamics methodology applied in swimming research.

This talk presents new information based on recent scientific research conducted at the Research Centre in Sports Sciences, Health Sciences and Human Development (CIDESD, Vila Real, Portugal). We concentrated on numerical simulation results, considering the scientific simulation point-of-view and especially the practical implications with swimmers and coaches.

Computational Fluid Dynamics has been applied to swimming in order to understand its relationships with performance. The numerical techniques have been applied to the analysis of the propulsive forces generated by the propelling segments and to the analysis of the hydrodynamic drag forces resisting forward motion.