

LadHyX Seminar – June 28, 10:45

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Quantitative flow imaging approaches to unsteady separated flows

This talk presents an overview of the recent and current research projects undertaken by our research group. They span a range of topics, including theoretical and experimental aspects of flow-acoustic coupling, fluid-structure interactions and multicomponent turbulent flows. Our current focus is on propulsive and energy-extracting performance of oscillating foils, flow-induced noise and vibrations in pipeline systems, dispersion of multicomponent jets and cavitation-induced noise of marine propellers. Many of these projects involve application of quantitative flow imaging techniques such as Particle Image Velocimetry (PIV), which yield results that can both serve as a reference for numerical investigations and provide valuable insight into the physics of the flow phenomena.