Numerical Approaches to Industrial Flow Optimization

Harvey M. Thompson
Professor of Computational Fluid Dynamics
Head of the School of Mechanical Engineering
University of Leeds, Leeds, LS2 9JT, UK

Abstract

Numerical optimization methods are being used increasingly with flow simulations to improve the performance of fluid flow systems. Through a series of cases studies, this presentation will describe how combining experimental, flow modelling and optimization methods enable practical flow systems to be designed effectively within feasible time-scales. A number of the limitations of current numerical approaches will be highlighted and important new research directions will be discussed.