



Preface

Most of the papers in this Special Issue of the *Journal of Fluids and Structures* are a selected set of extended and updated papers, first presented at the Fifth Symposium on Fluid–Structure Interaction, Aeroelasticity, and Flow-Induced Vibration and Noise, sponsored by ASME, JSME, CSME and AFM and held as part of ASME IMECE Meeting in New Orleans in November 2002. One of the purposes of such Symposia is to bring together people of similar interests to provide a forum for exchange of information on the relevant topic. Based on the quality of the papers presented and the quality of the people presenting them, we feel that this particular goal was well met. This Symposium was able to attract people from all over the world and the papers were on a very broad variety of topics within the scope of the Symposium.

This Special (double) Issue focuses on *Bluff-Body/Flow Interactions* and contains 11 papers on this theme or some variation thereof. Bluff bodies are quite common in engineering applications. In spite of the fact that flow around bluff bodies has been an important engineering area for at least a century, there is still much unknown about the subject. The engineering community keeps finding new applications for the cylindrical cross-section that tell us that there is much yet to learn when there are design questions for which we do not have ready answers. The numerical computation of such flows is just now coming into its own because of the recent advances in computational capability. It is now possible to calculate flows that we had no hope of modelling even 10 years ago. Recent relevant applications have involved flow past long slender cylinders, such as risers and tendons on deepwater offshore platforms, leading to self-excited oscillations, also known as vortex-induced vibrations. There are also cases in which an offshore application involves several adjacent cylinders, in some prescribed pattern. It is important to know how the cylinders respond to the flow, especially when in close proximity because of possible impacts between adjacent cylinders when one or more may be subject to vortex-induced vibration. This problem has obvious interest also to the heat exchanger community. Flow past cylinders with noncircular cross-sections also has application in the offshore industry. Another topic covered in this volume is flow in a pipe with a thermowell extending into the flow regime in the pipe.

Recognition of these recent problem areas in flow past bluff bodies has led to more than just innovative computational effort in solving these interesting and challenging problems. Researchers are examining these problems experimentally as well. Some of the papers in the other Special Issues in this Volume, containing additional papers based on earlier versions presented at the Symposium, will deal with some of the experimental aspects of similar problems. The themes of the Symposium remain an important part of Fluid Mechanics, and hence will continue to be held in the future—the next one in 2006.

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