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INTERFACE PROBLEMS AND METHODS In Biological and physical flows

his volume showcases lecture notes collected from tutorials presented at the Workshop on Moving Interface Problems and Applications in Fluid Dynamics that was held between January 8 and March 31, 2007 at the Institute for Mathematical Sciences, National University of Singapore. As part of the program, these tutorials were conducted by specialists within their respective areas such as Robert Dillon, Zhilin Li, John Lowengrub, Frank Lu and Gretar Tryggvason.

The topics in the program encompass modeling and simulations of biological flow coupled to deformable tissue/elastic structure, shock wave and bubble dynamics and various applications like biological treatments with experimental verification, multi-medium flow or multiphase flow and various applications including cavitation/supercavitation, detonation problems, Newtonian and non-Newtonian fluid, and many other areas.

This volume stand to benefit graduate students and researchers keen in the field of interfacial flows for application to physical and biological systems. Even beginners will find this volume a very useful starting point with many relevant references applicable.

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