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Nota di contenuto	1. Steam Ejector Modelling and Simulations by CFD Approach (Au: Xiaodong Wang, He Li, Jingliang Dong, Guangli Zhang, Yu Han, Ao Li, Hongjian Lei, Hao Sun, Haolin Sun, and Jiyuan Tu) -- 2. Computational Fluid Dynamics Applications in Cardiovascular Medicine—from Medical Image-based Modeling to Simulation: Numerical Analysis of Blood Flow in Abdominal Aorta (Au: Alin-Florin Totorean, Sandor Ianos Bernad, Tiberiu Ciocan, Iuliana-Claudia Totorean, and Elena Silvia Bernad) -- 3. An Improved Density-based Compressible Flow Solver in OpenFOAM for Unsteady Flow Calculations (Au: Gaurav Kumar and Ashoke De) -- 4. A Robust and Efficient Solver based on Kinetic Schemes for Magnetohydrodynamics (MHD) Equations (Au: Hubert Baty, Florence Drui, Emmanuel Franck, Philippe Helluy, Christian Klingenberg, and

Lukas Thanhäuser). 5. Coupled Algorithms for CFD Applications: A Decade of Continuous Development (Au: M. Darwish, L. Mangani, F. Moukalled, and E. Casartelli) -- 6. Finite Volume Models and Efficient Simulation Tools (EST) for Shallow Flows (Au: S. Martínez-Aranda, J. Fernández-Pato, I. Echeverribar, A. Navas-Montilla, M. Morales-Hernández, P. Brufau, J. Murillo, and P. García-Navarro) -- 7. Overview of Outfall Discharge Modeling with a Focus on Turbulence Modeling Approaches (Au: Mostafa Taherian, Seyed Ahmad Reza Saeidi Hosseini, and Abdolmajid Mohammadian) -- 8. A Unified Algorithm for Interfacial Flows with Incompressible and Compressible Fluids (Au: Fabian Denner and Berend van Wachem) -- 9. Stabilized Finite Element Formulation and High-performance Solver for Slightly-compressible Navier–Stokes Equations (Au: Feimi Yu and Lucy T. Zhang).

Sommario/riassunto

This edited book provides invited and reviewed contributions in mathematical, physical and experimental modelling and simulations in all fluid mechanics branches. Contributions explore the emerging and state-of-the-art tools in the field authored by well-established researchers to derive improved performance of modelling and simulations. Serving the multidisciplinary fluid mechanics community, this book aims to publish new research work that enhances the prediction and understanding of fluid mechanics and balances from academic theory to practical applications through modelling, numerical studies, algorithms and simulation. The book offers researchers, students and practitioners significant insights on modelling and simulations in fluid mechanics. It offers readers a range of academic contributions on fluid mechanics by researchers that have become leaders in their field. The research work presented in this book will add values to the existing literature in terms of what needs to bedone better to direct modelling and simulations towards a growing and rapidly developing field.