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Titolo	Rowing Biomechanics and Hydrodynamics : Performance Enhancement Through Sport Engineering / / by Ab Aziz Mohd Yusof, Muhamad Noor Harun, Ardiyansyah Syahrom
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Descrizione fisica	1 online resource (XXI, 108 p. 67 illus., 50 illus. in color.)
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Disciplina	620.1064
Soggetti	Fluid mechanics Biomedical engineering Biomechanics Sports sciences Engineering Fluid Dynamics Biomechanical Analysis and Modeling Sports Biomechanics
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Nota di contenuto	Introduction and basic principle -- Biomechanics and hydrodynamics of the rowing motion -- The coupling mechanism of rowing -- Computational fluid dynamic of rowing -- Computational fluid dynamic of rowing using fluid-structure interaction -- Computational fluid dynamic of rowing for quasitatic and dynamic due to rower force profile -- Design and set up of water tank for data collection.
Sommario/riassunto	This book introduces engineering principles into the sport of rowing by the integration of rower biomechanics, stroke style, and blade hydrodynamics to improve the rowing performance in the sport. The book starts with an essential overview of rowing, covering its history, governing organizations, and the stroke phases. It looks into the biomechanical and hydrodynamic aspects, emphasizing different body segments and stroke styles contributing to rower performance. Key performance parameters are discussed, such as peak force, stroke rate, and hydrodynamic force. It also highlights the utilization of dynamic rowing simulators and specialized sensors to collect crucial

performance assessment and improvement data. By addressing the engineering aspects of the sport, the book offers the potential for performance enhancement, ultimately benefiting the rowing community and advancing sports science.