Record Nr. UNINA9910461521703321 Autore Caro Colin G (Colin Gerald) Titolo The mechanics of the circulation / / C.G. Caro [and others] [[electronic resource]] Cambridge:,: Cambridge University Press,, 2012 Pubbl/distr/stampa **ISBN** 1-107-22282-6 9786613728098 1-139-18735-X 1-280-88678-1 1-139-18272-2 1-139-18503-9 1-139-18863-1 1-139-01340-8 Edizione [Second edition.] Descrizione fisica 1 online resource (xxvi, 523 pages) : digital, PDF file(s) Disciplina 612.1/1 Soggetti Hemodynamics **Blood - Circulation** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 05 Oct 2015). Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Machine generated contents note: Preface to the second edition; Preface to the first edition; Part I. Background Mechanics: 1. Particles and continuous materials; 2. Particle mechanics; 3. Units; 4. Basic ideas in fluid mechanics: 5. Flow in pipes and around objects: 6. Dimensional analysis; 7. Solid mechanics and the properties of blood vessel walls; 8. Oscillations and waves; 9. An introduction to mass transfer; Part II. Mechanics of the Circulation: 10. Blood; 11. The heart; 12. The systemic arteries; 13. The systemic microcirculation; 14. The systemic veins; 15. The pulmonary circulation; Index. Sommario/riassunto Continuing demand for this book confirms that it remains relevant over 30 years after its first publication. The fundamental explanations are largely unchanged, but in the new introduction to this second edition

> the authors are on hand to guide the reader through major advances of the last three decades. With an emphasis on physical explanation rather

than equations, Part I clearly presents the background mechanics. The second part applies mechanical reasoning to the component parts of the circulation: blood, the heart, the systemic arteries, microcirculation, veins and the pulmonary circulation. Each section demonstrates how an understanding of basic mechanics enhances our understanding of the function of the circulation as a whole. This classic book is of value to students, researchers and practitioners in bioengineering, physiology and human and veterinary medicine, particularly those working in the cardiovascular field, and to engineers and physical scientists with multidisciplinary interests.