1. Record Nr. UNINA9910254166103321

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Titolo	Artificial Organ Engineering / / by Maria Cristina Annesini, Luigi Marrelli, Vincenzo Piemonte, Luca Turchetti
Pubbl/distr/stampa	London : , : Springer London : , : Imprint : Springer, , 2017
ISBN	1-4471-6443-1
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XV, 265 p. 107 illus., 26 illus. in color.)
Disciplina	610.28
Soggetti	Biomedical engineering Clinical biochemistry Biochemical engineering Biophysics Biomedical Engineering and Bioengineering Medical Biochemistry Biochemical Engineering Biological and Medical Physics, Biophysics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Diffusion -- 2. Mass transfer coefficient -- 3. Membrane operations -- 4. Adsorption -- 5. Bioreactors.
Sommario/riassunto	Artificial organs may be considered as small-scale process plants, in which heat, mass and momentum transfer operations and, possibly, chemical transformations are carried out. This book proposes a novel analysis of artificial organs based on the typical bottom-up approach used in process engineering. Starting from a description of the fundamental physico-chemical phenomena involved in the process, the whole system is rebuilt as an interconnected ensemble of elemental unit operations. Each artificial organ is presented with a short introduction provided by expert clinicians. Devices commonly used in clinical practice are reviewed and their performance is assessed and compared by using a mathematical model based approach. Whilst mathematical modelling is a fundamental tool for quantitative descriptions of clinical devices, models are kept simple to remain focused on the essential features of each process. Postgraduate

students and researchers in the field of chemical and biomedical engineering will find that this book provides a novel and useful tool for the analysis of existing devices and, possibly, the design of new ones. This approach will also be useful for medical researchers who want to get a deeper insight into the basic working principles of artificial organs.