

1. Record Nr.	UNINA9910299468203321
Titolo	Cardiovascular and Cardiac Therapeutic Devices // edited by Thomas Franz
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2014
ISBN	3-642-53836-3
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (246 p.)
Collana	Studies in Mechanobiology, Tissue Engineering and Biomaterials, , 1868-2006 ; ; 15
Disciplina	616.106
Soggetti	Biomedical engineering Biomaterials Cardiology Biophysics Biomedical Engineering and Bioengineering Biological and Medical Physics, Biophysics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index at the end of each chapters.
Nota di contenuto	Multi-objective design of a biodegradable coronary artery stent -- Development of a fabric-reinforced porous graft for vascular tissue engineering using finite element methods and genetic algorithms -- Aortic aneurysms: OSR, EVAR, stent-grafts, migration and endoleak—current state of the art and analysis -- Flexible leaflet polymeric heart valves -- Aortic biological prosthetic valve for open-surgery and percutaneous implant: Procedure simulation and performance assessment -- Cardiac restraint and support following myocardial infarction -- In vivo mechanical loading conditions of pectorally implanted cardiac pacemakers.
Sommario/riassunto	This volume focuses on latest research in therapeutic devices for cardiovascular, i.e. vascular and valvular, and cardiac diseases. Aspects of vascular therapies covered relate to stent grafts for aortic aneurysms, endovascular stents for percutaneous arterial interventions, and small- to medium-diameter tissue engineered vascular grafts - one of the greatest persisting challenges in cardiovascular therapies.

Contributions on valvular therapies focus on prosthetic heart valves with flexible polymeric leaflets and patient-specific simulation for open-heart and percutaneous implantation of aortic biological heart valves including the challenges posed on the prosthesis design. The section on cardiac diseases provides contributions on advances in therapies for myocardial infarction and infarct-induced heart failure, and in vivo biomechanics of implantable cardiac pacemakers.
