

1. Record Nr.	UNINA9910299457803321
Titolo	Computational Methods, Seismic Protection, Hybrid Testing and Resilience in Earthquake Engineering : A Tribute to the Research Contributions of Prof. Andrei Reinhorn // edited by Gian Paolo Cimellaro, Satish Nagarajaiah, Sashi K. Kunnath
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-06394-4
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (329 p.)
Collana	Geotechnical, Geological and Earthquake Engineering, , 1573-6059 ; ; 33
Disciplina	515.64 55 620 620.1
Soggetti	Geotechnical engineering Engineering geology Engineering—Geology Foundations Hydraulics Vibration Dynamical systems Dynamics Calculus of variations Mechanics Mechanics, Applied Geotechnical Engineering & Applied Earth Sciences Geoengineering, Foundations, Hydraulics Vibration, Dynamical Systems, Control Calculus of Variations and Optimal Control; Optimization Solid Mechanics
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.

Nota di contenuto

Introduction -- Genesis of 3D-BASIS—its impact on nonlinear dynamic analysis of 3D base isolated structures and implementation in practice—and recent updates including the addition of new Negative Stiffness System -- The Genesis of IDARC and Advances in Macromodeling for Nonlinear Analysis of RC Structures -- A novel method for solving random eigenvalue problems -- Three dimensional Formulation of Large Dis-placement problems: the zipper frame example -- Simplified Seismic Evaluation of Structures using Adaptive Pushover Analysis -- Evaluation of the seismic capacity of nonstructural components -- Reference quantities and values for a possible interpretation of the data acquired from monitoring systems of historical buildings -- A versatile hybrid testing system and its application in developing hybrid simulation methods for NEESR projects -- Introduction to Resilience-Based design -- Modeling Economic Dimension of Community Resilience -- Seismic Performance of Health care facilities using Discrete Event simulation models -- On the seismic behavior of viscously coupled shear walls -- An energy-based method for the design of supplemental damping for inelastic structures -- Seismic response and stability of the rocking frame -- The dispersion of Concrete compressive strength of existing buildings -- Concrete strength variability as a source of irregularity for existing RC structures -- Evaluating the Efficiency of Recent Nonlinear Static Procedures on the Seismic Assessment of an Asymmetric Plan Building.

Sommario/riassunto

The book is a tribute to the research contribution of Professor Andrei Reinhorn in the field of earthquake engineering. It covers all the aspects connected to earthquake engineering starting from computational methods, hybrid testing and control, resilience and seismic protection which have been the main research topics in the field of earthquake engineering in the last 30 years. These were all investigated by Prof. Reinhorn throughout his career. The book provides the most recent advancements in these four different fields, including contributions coming from six different countries giving an international outlook to the topics.
