1. Record Nr. UNINA9910484852203321

Titolo	Advanced Control Techniques in Complex Engineering Systems: Theory and Applications : Dedicated to Professor Vsevolod M. Kuntsevich / / edited by Yuriy P. Kondratenko, Arkadii A. Chikrii, Vyacheslav F. Gubarev, Janusz Kacprzyk
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-21927-5
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (344 pages)
Collana	Studies in Systems, Decision and Control, , 2198-4190 ; ; 203
Disciplina	629.8 629.8312
Soggetti	Control engineering Dynamics Nonlinear theories Engineering mathematics Control and Systems Theory Applied Dynamical Systems Engineering Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Method of Resolving Functions in the Theory of Conflict – Controlled Processes -- Impact of Average-Dwell-Time Characterizations for Switched Nonlinear Systems on Complex Systems Control -- On the Problem of Optimization in Group Control -- Model Predictive Control for Discrete MIMO Linear Systems -- Krasovskii's Unication Method and the Stability Defect of Sets in a Game Problem of Approach on a Finite Time Interval -- Control of Stochastic Systems Based on the Predictive Models of Random Sequences -- Program iterations method and relaxation of a Pursuit-Evasion dierential game -- Fuzzy Real-Time Multi-Objective Optimization of a Prosthesis Test Robot Control System -- Bio-inspired Optimization of Type-2 Fuzzy Controllers n Autonomous Mobile Robot Navigation -- A status quo biased multistage decision model for regional agricultural socioeconomic

planning under fuzzy information -- Holonic Hybrid Supervised Control of Semi-continuous Radiopharmaceutical Production Processes -- Hybrid Control Structure and Reconfiguration Capabilities in Bionic Assembly System -- A atness-based approach to the control of distributed parameter systems applied to load transportation with heavy ropes -- Toward A Secure IoT Architecture -- Formal Concept Analysis for Partner Selection in Collaborative Simulation Training.

Sommario/riassunto

This book presents an authoritative collection of contributions by researchers from 16 different countries (Austria, Chile, Georgia, Germany, Mexico, Norway, P.R. of China, Poland, North Macedonia, Romania, Russia, Spain, Turkey, Ukraine, the United Kingdom and United States) that report on recent developments and new directions in advanced control systems, together with new theoretical findings, industrial applications and case studies on complex engineering systems. This book is dedicated to Professor Vsevolod Mykhailovych Kuntsevich, an Academician of the National Academy of Sciences of Ukraine, and President of the National Committee of the Ukrainian Association on Automatic Control, in recognition of his pioneering works, his great scientific and scholarly achievements, and his years of service to many scientific and professional communities, notably those involved in automation, cybernetics, control, management and, more specifically, the fundamentals and applications of tools and techniques for dealing with uncertain information, robustness, non-linearity, extremal systems, discrete control systems, adaptive control systems and others. Covering essential theories, methods and new challenges in control systems design, the book is not only a timely reference guide but also a source of new ideas and inspirations for graduate students and researchers alike. Its 15 chapters are grouped into four sections: (a) fundamental theoretical issues in complex engineering systems, (b) artificial intelligence and soft computing for control and decision-making systems, (c) advanced control techniques for industrial and collaborative automation, and (d) modern applications for management and information processing in complex systems. All chapters are intended to provide an easy-to-follow introduction to the topics addressed, including the most relevant references. At the same time, they reflect various aspects of the latest research work being conducted around the world and, therefore, provide information on the state of the art. .