1. Record Nr.   UNINA9910299489603321

    Titolo   Controls and Art : Inquiries at the Intersection of the Subjective and the
                        Objective / / edited by Amy LaViers, Magnus Egerstedt

    Pubbl/distr/stampa Cham : , : Springer International Publishing : , : Imprint : Springer, ,
                        2014

    ISBN   3-319-03904-0

    Edizione   [1st ed. 2014.]

    Descrizione fisica 1 online resource (238 p.)

    Disciplina   001.53
                        500
                        620
                        629.8

    Soggetti   Control engineering
                        Arts
                        Popular works
                        Robotics
                        Automation
                        Control and Systems Theory
                        Popular Science, general
                        Robotics and Automation

    Lingua di pubblicazione   Inglese

    Formato   Materiale a stampa

    Livello bibliografico   Monografia

    Note generali   "Search resulted in two Invited Sessions at the American Control
                        Conference (2011 in San Francisco and 2012 in Montreal), with the
                        second one being co-organized with Naomi Leonard"--Preface.

    Nota di bibliografia   Includes bibliographical references at the end of each chapters and
                        indexes.

    Nota di contenuto   Metric Preference Learning with Applications to Motion Imitation -- In
                        the Dance Studio: An Art and Engineering Exploration of Human
                        Flocking -- Dancing Robots: The Control Theory of Communication
                        Through Movement -- So You Think You Can Dance?: Rhythmic Flight
                        Performances with Quadrocopters -- Robotic Puppets and the
                        Engineering of Autonomous Theatre -- The Artistic Geometry of
                        Consensus Protocols -- Generating Music from Flocking Dynamics --
                        "Are We There Yet?": Visual Tracking of Visitors Under Variable Lighting
                        -- Style-based Robotic Motion in Contemporary Dance Performance.

Sommario/riassunto

Dancing humanoids, robotic art installations, and music generated by mathematically precise methods are no longer science fiction; in fact they are the subject of this book. This first-of-its-kind anthology assembles technical research that makes such creations possible. In order to mechanize something as enigmatic and personal as dance, researchers must delve deeply into two distinct academic disciplines: control theory and art. Broadly, this research uses techniques from the world of art to inspire methods in control, enables artistic endeavours using advanced control theory, and aids in the analysis of art using metrics devised by a systems theoretic approach. To ensure that artistic influences are well represented, the individual chapters are focused so that they relate their contribution to the arts meaningfully and explicitly. Specially composed introductions set up the contributions either in terms of inspiration by artistic principles or their contribution to the arts through new analysis tools. To facilitate this, the majority of the chapters are authored jointly by experts in control theory and by artists, including dancers, choreographers, puppeteers, and painters. Connections between controls and art then permeate the text so that these important relationships play a central role in the book. Controls and Art surveys current projects in this area—including a disco dancing robot, a reactive museum exhibit, and otherworldly music—and illuminates open problems and topics for research in this emerging interdisciplinary field. It will draw attention both from experts in robotics and control interested in developing the artistic side of their creations and from academics studying dance, theater, music and the visual arts with an interest in avant-garde means of production.