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Descrizione fisica	1 online resource (1017 pages)
Collana	Mechanisms and Machine Science, , 2211-0992 ; ; 148
Disciplina	621.05
Soggetti	Automatic control Robotics Automation Multibody systems Vibration Mechanics, Applied Machinery Biomedical engineering Control, Robotics, Automation Multibody Systems and Mechanical Vibrations Machinery and Machine Elements Biomedical Engineering and Bioengineering
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Design and characterization of a modular unit for a humanoid torso mechanism -- Stiffness Analysis of a Module-based Shape Morphing Snake-like Robot -- Compact expressions of the singularity locus of optimal cable-suspended robots -- Design and multi-objective optimization for a novel 7 DOF inchworm-like robot -- Physical Human-Robot Interaction Performance Optimization of an Exosuit for Assistance -- Analysis and Design of a Suspended able-Driven Parallel Robot for Educational Process -- Analysis and Recognition of Human Postures \\ for Robotic Applications -- An interactive collaborative robotic system to play Italian checkers -- A Novel

Adaptive Prosthetic Finger Design with Scalability -- Demo Prototype of TORVEASTRO Robot and Its Testing -- Design optimization of a tendon-driven continuum robot -- Characterization of Dielectric Elastomers by Finite Element Analysis -- Obtaining desired shapes of cable-drivencontinuum robots using general cable routing -- Motion Analysis and Control of a Flexible Spatial Closed-loop Mechanism Made of a Certain Thin Elastic Plate -- Application of the «bang-bang» law in robot manipulators for the reduction of inertial forces and input torques -- A Dual-Arm Nasopharyngeal Swab Manipulation Robot for Polymerization Chain Reaction Sampling.

Sommario/riassunto

This book gathers the proceedings of the 16th IFToMM World Congress, which was held in Tokyo, Japan, on November 5–10, 2023. Having been organized every four years since 1965, the Congress represents the world’s largest scientific event on mechanism and machine science (MMS). The contributions cover an extremely diverse range of topics, including biomechanical engineering, computational kinematics, design methodologies, dynamics of machinery, multibody dynamics, gearing and transmissions, history of MMS, linkage and mechanical controls, robotics and mechatronics, micro-mechanisms, reliability of machines and mechanisms, rotor dynamics, standardization of terminology, sustainable energy systems, transportation machinery, tribology and vibration. Selected by means of a rigorous international peer-review process, they highlight numerous exciting advances and ideas that will spur novel research directions and foster new multidisciplinary collaborations. Chapter “The Motion Suspension System – MSS: A Cable-Driven System for On-Ground Tests of Space Robots” is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.