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Titolo	Biomimetic and Biohybrid Systems : 12th International Conference, Living Machines 2023, Genoa, Italy, July 10–13, 2023, Proceedings . Part II // edited by Fabian Meder, Alexander Hunt, Laura Margheri, Anna Mura, Barbara Mazzolai
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Descrizione fisica	1 online resource (xxii, 397 pages) : illustrations (some color)
Collana	Lecture Notes in Artificial Intelligence, , 2945-9141
Disciplina	170
Soggetti	Artificial intelligence - Biological applications Biomimicry Natural computation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Model reveals joint properties for which co-contracting antagonist muscles increases joint stiffness -- Biarticular muscles improve the stability of a neuromechanical model of the rat hindlimb -- Multimodal Parameter Inference for a Canonical Motor Microcircuit Controlling Rat Hindlimb Motion -- Towards a Soft Artificial Larynx: A Biomimetic Design -- A multibody approach for the finger force estimation of a robotic hand -- A Pneumatic Bending Actuator System Inspired by the Avian Tendon Locking Mechanism -- Study and preliminary modeling of microstructure and morphology of the elephant trunk skin -- Development of a Robotic Rat Hindlimb Model -- Toward a more realistic 3D biomimetic soft robotic tongue to investigate oral processing of semi-solid foods -- Optimization of Kirigami-Inspired Fingers Grasping Posture in Virtual Environments -- BrainX3: A neuroinformatic tool for interactive exploration of multimodal brain datasets -- Spofify: An Automated Tool to Quantify Spores in Z-Stacked 3D Samples -- A Comparison of Absolute and Relative Neural Encoding Schemes in Addition and Subtraction Functional Subnetworks -- GANGLIA: A tool for designing customized neuron circuit patterns -- The Tall, the Squat, and the Bendy: Parametric Modeling and Simulation Towards Multi-functional Biohybrid Robots -- A Simple

Dynamic Controller for Emulating Human Balance Control -- Motivational modulation of consummatory behaviour and learning in a robot model of spatial navigation -- Topical grouping of thousands of Biomimetics articles according to their goals, results and methods -- Biomimetics Analyzed: Examples from an Epistemological and Ontological Perspective -- Feed Me: Robotic Infiltration of Poison Frog Families -- Triboelectric charging during insect walking on leaves: a potential tool for sensing plant-insect interactions -- Slug Battery: An Enzymatic Fuel Cell Tested in vitro in *Aplysia californica* Hemolymph -- Mycelium Bridge as a Living Electrical Conductor: Access Point to Soil Infosphere -- Living organisms as sensors for biohybrid monitoring systems -- Autonomous versus Manual Control of a Pasture Sanitation Robot -- A novel steerable catheter controlled with a biohybrid actuator: a feasibility study. .

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Sommario/riassunto

This book constitutes the proceedings of the 12th International Conference on Biomimetic and Biohybrid Systems, Living Machines 2022, in Genoa, Italy, held in July 19–22, 2022. The 44 full papers and 14 short papers presented were carefully reviewed and selected from 67 submissions. They deal with research on novel life-like technologies inspired by the scientific investigation of biological systems, biomimetics, and research that seeks to interface biological and artificial systems to create biohybrid systems. The conference aims to highlight the most exciting research in both fields united by the theme of “Living Machines.”.

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