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Nota di contenuto	Improving recall in an associative neural network model of the hippocampus -- Iterative Learning Control as a Framework for Human-Inspired Control with Bio-Mimetic Actuators -- Efficient fine-grained object detection for robot-assisted WEEE disassembly -- Integrated Topological Planning and Scheduling for Orchestrating Large Human-Robot Collaborative Teams -- Programming Material Intelligence: An Additive Fabrication Strategy for Self-Shaping Biohybrid Components -- Multi-material 3D-printer for rapid prototyping of bio-inspired soft robotic elements -- Kinematic and Kinetic Analysis of a Biomechanical Model of Rat Hind Limb with Biarticular Muscle -- How to reduce computation time while sparing performance during robot navigation? A neuro-inspired architecture for autonomous shifting between model-based and model-free learning -- An Image-based Method for the Morphological Analysis of Tendrils with 2D Piece-wise Clothoid Approximation Model -- Cholinergic control of chaos and evidence sensitivity in a neocortical model of perceptual decision-making -- Biomechanical Characterization of Hook-Climber Stems for Soft Robotic Applications -- Machine Morality. From Harm Avoidance to Human-Robot Cooperation. Haptic Object Identification for Advanced Manipulation Skills -- Distributed Adaptive Control: An ideal Cognitive

Ar-chitecture candidate for managing a robotic recycling plant -- Standing on the water: stability mechanisms of snakes on free surface -- From models of cognition to robot control and back using spiking neural networks -- A framework for resolving motivational conflict via attractor dynamics -- Insect inspired view based navigation exploiting temporal information -- Split-belt Adaptation Model of a Decerebrate Cat Using a Quadruped Robot with Learning -- Biohybrid wind energy generators based on living plants -- Snapshot Navigation In The Wavelet Domain -- Bioinspired Navigation Based on Distributed Sensing in the Leech -- A plausible mechanism for Drosophila Larva intermittent behaviour -- Robophysical modeling of bilaterally activated and soft limbless locomotors -- Fast Reverse Replays of Recent Spatiotemporal Trajectories in a Robotic Hippocampal Model -- Using Animatlab for Neuromechanical Analysis: Linear Hill Parameter Calculation -- Spatio-temporal Memory for Navigation in a Mushroom Body Model.

Sommario/riassunto

This book constitutes the proceedings of the)th International Conference on Biomimetic and Biohybrid Systems, Living Machines 2020, held in Freiburg, Germany, in July 2020. Due to COVID-19 pandemic the conference was held virtually. The 32 full and 7 short papers presented in this volume were carefully reviewed and selected from 45 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. .