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Titolo	Ocular tissue engineering // Dimitrios Karamichos (Ed.)
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Lingua di pubblicazione	Inglese
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Note generali	"This book is a reprint of the special issue that appeared in the online open access journal Journal of Functional Biomaterials (ISSN 2079-4983) in 2015-2016" -- title page verso.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. An editorial --Chapter 2. Ocular disease and future biomaterials --3. Ocular nanotechnology and tissue engineering
Sommario/riassunto	Tissue engineering emerged back in the 1990s as a new concept to overcome the problem of tissue and organ failure. Over recent decades, there has been incredible progress towards the regeneration of tissues such as bone, heart valves, cartilage, cornea, and retina. In terms of ocular tissue engineering, despite the scientific and strategic incentive for reconstructing ocular tissues, there is also a tremendous need for novel therapeutic options in treating numerous eye diseases related to tissue failure. The aim of this Special Issue is to discuss tissue engineering applications of ocular tissues including but not limited to cornea, retina, and lenses.

2. Record Nr.	UNISA996215641403316
Titolo	Biomimetic and Biohybrid Systems [[electronic resource]] : 4th International Conference, Living Machines 2015, Barcelona, Spain, July 28 - 31, 2015, Proceedings / / edited by Stuart P. Wilson, Paul F.M.J. Verschure, Anna Mura, Tony J. Prescott
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
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Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XIII, 474 p. 240 illus.)
Collana	Lecture Notes in Artificial Intelligence ; ; 9222
Disciplina	660.6
Soggetti	Artificial intelligence Optical data processing Computers Data mining Artificial Intelligence Computer Imaging, Vision, Pattern Recognition and Graphics Theory of Computation Data Mining and Knowledge Discovery
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- A Model of Larval Biomechanics Reveals Exploitable Passive Properties for Efficient Locomotion -- 1 Introduction -- 2 Model Construction -- 3 Results -- 3.1 Passive Dynamics of a Single Segment -- Role of Model Parameters -- 3.2 Passive Dynamics of the Whole Body -- 3.3 Resonance and Preferred Input Timing -- 3.4 Generating Locomotion Through Local Positive Feedback -- 4 Discussion -- References -- Dynamic Walking with a Soft Limb Robot -- 1 Introduction -- 2 Design and Fabrication -- 3 Control -- 4 Experimental Set-up -- 5 Results and Discussion -- 5.1 Trotting -- 5.2 Pacing -- 5.3 Galloping -- 5.4 Stance and Flight Phase -- 5.5 Similarity to Biological Systems -- 6 Conclusion and Future Work -- References -- Worm-Like Robotic Locomotion with a Compliant Modular Mesh -- 1 Introduction -- 2 Design -- 2.1 Bi-

directional Actuation -- 2.2 Mesh Structure -- 2.3 Electronics and Control -- 3 Robot Performance -- 4 Sensing -- 5 Conclusions -- References -- WormTIP: An Invertebrate Inspired Active Tactile Imaging Pneumostat -- 1 Introduction -- 2 Active Touch -- 2.1 Electro-Active Polymers -- 2.2 Pressurised Antagonistic DEAs -- 2.3 WormTIP -- 3 Methods and Experimental Setup -- 3.1 Fabrication -- 4 Results -- 4.1 Image Processing -- 4.2 Square Object -- 4.3 Circular Object -- 4.4 Flat Surface -- 5 Conclusion -- References -- Copying Nature - A Design of Hyper-Redundant Robot Joint/Support Based on Hydrostatic Skeleton -- 1 Introduction -- 2 The Design of the Artificial Muscular Hydrostatic Joint/Support -- 2.1 Strength and Weakness of the Evolved Artificial Muscular Hydrostatic Joint/Support -- 2.2 Some Hyper-redundant Bodies that can Make Use of this Design -- 3 An Adaptation of the Design to a Planar Biological Model -- 4 Tests, Results and Discussion -- 4.1 Biomimicry of the Joints. 4.2 Stress Within the Most Critical Part -- 4.3 Field Test -- 5 Conclusions and Recommendation -- An Under-Actuated and Adaptable Soft Robotic Gripper -- 1 Introduction -- 2 Materials and Methods -- 2.1 Design Concept of the Mechanical Structure -- 2.2 Cable-Driven Under-Actuated Mechanism -- 2.3 Material Choice and Finger Fabrication Process -- 3 Results and Discussions -- 4 Conclusions -- References -- Measuring the Local Viscosity and Velocity of Fluids Using a Biomimetic Tactile Whisker -- 1 Introduction and Motivation -- 2 Background -- 3 Method -- 3.1 Experiment 1: Flow Tank -- 3.2 Experiment 2: Whisk Tank -- 4 Results -- 5 Analysis -- 6 Conclusion -- References -- Biomimicry of the Manduca Sexta Forewing Using SRT Protein Complex for FWMAV Development -- 1 Introduction -- 2 Recombinant Squid Ring Teeth (SRT) Protein Complex -- 3 Wing Design and Fabrication -- 4 Summary and Future Work -- References -- Correlating Kinetics and Kinematics of Earthworm Peristaltic Locomotion -- 1 Introduction -- 2 Methods -- 3 Results -- 4 Discussion -- References -- Visualizing Wakes in Swimming Locomotion of Xenopus-Noid by Using PIV -- 1 Introduction -- 2 Method -- 3 Result -- References -- Biomimetic Approach for the Creation of Deployable Canopies Based on the Unfolding of a Beetle Wing and the Blooming of a Flower -- Introduction -- Literature Review -- Wing Folding -- Flower Blooming -- Methodology -- The Beetle Wing -- The Flower -- Results -- Discussion -- Conclusion -- References -- Biomimetic Tactile Sensing Capsule -- 1 Introduction -- 2 Biologically-Inspired Tactile Sensing Device -- 3 Experiment Design -- 3.1 Sensing Algorithm -- 4 Results -- 5 Conclusion -- 6 Future Work -- References -- Wings of a Feather Stick Together: Morphing Wings with Barbule-Inspired Latching -- 1 Introduction -- 2 Technical Approach -- 2.1 Controllable Dry Adhesives. 2.2 Wing Prototype Design Description -- 3 Experimental Setup -- 3.1 Interlocking Adhesives Limit Curve -- 3.2 Wind Tunnel Test Experimental Procedure -- 4 Results and Discussion -- 4.1 Interlocking Adhesive Limit Curve Results -- 4.2 Aerodynamic Performance of the Latched and Unlatched Wing Prototype -- 5 Conclusions and Future Work -- References -- Obstacle-Avoidance Navigation by an Autonomous Vehicle Inspired by a Bat Biosonar Strategy -- 1 Introduction -- 2 Obstacle-Aiming System for Autonomous Vehicles -- 2.1 Vehicle Design -- 2.2 Measurement System -- 2.3 Results -- 3 Multi-Object-Detecting Navigation System -- 3.1 Vehicle Navigation Algorithm -- 3.2 Results -- 4 Discussion -- References -- Development of Piezoelectric Artificial Cochlea Inspired by Human Hearing Organ -- 1 Introduction -- 2 Design and Fabrication -- 3 Experimental Results -- 4 Conclusion -- References -- Visual

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-- The Vertical Optic Flow: An Additional Cue for Stabilizing Beerotor Robot's Flight Without IMU -- 1 Introduction -- 2 Beerotor's Airframe -- 3 Beerotor's Main Visuomotor Control Loops -- 4 Definition of the Vertical Ventral or Dorsal OF -- 5 Feedforward Control Based on the Vertical OF -- 6 Regulation of the Vertical OF During Landing -- 7 Conclusion -- References

-- Route Following Without Scanning -- 1 Introduction -- 2 Methods -- 2.1 Navigation Algorithms -- 2.2 Robot Study -- 2.3 Simulation Study -- 3 Results -- 3.1 Successful Route Following by a Robot in the Real Ant Habitat -- 3.2 Klinokinesis Produces Accurate and Rapid Route Following in Simulation -- 4 Discussion -- References

-- Using Animal Data and Neural Dynamics to Reverse Engineer a Neuromechanical Rat Model -- 1 Introduction -- 2 Model Description -- 3 Designing and Training Neural Output -- 3.1 Calculating Motor Neuron Activations -- 3.2 Designing CPGs -- 3.3 CPG Entrainment and Output -- 3.4 Afferent Influence of MN Activation -- 3.5 Additional Modifications -- 4 Walking Comparison -- 5 Conclusions -- References

-- Entraining and Copying of Temporal Correlations in Dissociated Cultured Neurons -- References

-- Remodeling Muscle Cells by Inducing Mechanical Stimulus -- 1 Introduction -- 2 Method -- 3 Results -- References

-- Integration of Biological Neural Models for the Control of Eye Movements in a Robotic Head -- 1 Introduction -- 2 Robotic Setup -- 3 Neurocontroller.

3.1 Eye Movements Integration -- 3.2 Saccades -- 3.3 Smooth Pursuit -- 3.4 Vergence -- 3.5 Vestibular-Ocular Reflex (VOR) -- 3.6 Microsaccades -- 4 Validation -- 5 Conclusions -- References

-- Saying It with Light: A Pilot Study of Affective Communication Using the MIRO Robot -- 1 Introduction -- 2 MIRO -- 2.1 Aesthetics and Morphology -- 2.2 Platform -- 2.3 Control Architecture and Gross Behaviour -- 2.4 Modelling and Expressing Affect -- 3 Experimental Study -- 3.1 Methods -- 3.2 Results -- 4 Discussion -- References

-- Integrating Feedback and Predictive Control in a Bio-inspired Model of Visual Pursuit Implemented on a Humanoid Robot -- 1 Introduction -- 2 Model -- 2.1 Predictor -- 2.2 Weighted Sum -- 3 Implementation -- 3.1 Backstepping-Based Controller as IDC -- 3.2 Neurocontroller as IDC -- 4 Results -- 4.1 Results for the Backstepping-Based Controller as IDC -- 4.2 Results for the Neurocontroller as IDC -- 5 Conclusions -- References

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-- 2 Methods -- 2.1 Tasks -- 2.2 Neural Network Details -- Original Neural Networks. -- Block Neural Networks. -- Cost Function. -- Training. -- Implementation. -- 3 Results -- Original Neural Networks. -- Adding 0-50-50 and 0-100-50 Blocks to Original Networks. -- Adding 50-50-50 and 100-50-50 Blocks to Original Networks. -- Adding Blocks to Pairs of Networks. -- Adding Blocks to Triplets of Networks. -- 4 Conclusions -- References -- A Top-Down Approach for a Synthetic Autobiographical Memory System -- 1 Introduction and Motivation -- 2 Requirements for a Top-Down SAM System -- 3 A Top-Down Approach to SAM -- 3.1 Properties -- 3.2 Gaussian Processes -- 3.3 Top-Down SAM Architecture -- 4 Demonstration Using Human Faces Data -- 4.1 Face Rotations Experiment. 4.2 Light Angle and Morphing Experiment.

Sommario/riassunto

This book constitutes the proceedings of the 4th International Conference on Biomimetic and Biohybrid Systems, Living Machines 2015, held in Barcelona, Spain, in July 2015. The 34 full and 13 short papers presented in this volume were carefully reviewed and selected from 50 submissions. The themes they deal with are: locomotion, particularly for soft-bodies; novel sensing and autonomous control systems; and cognitive architectures, social robots, and human-robot interaction.

3. Record Nr.	UNINA9910791194403321
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ISBN	0-520-27617-5 0-520-95838-1
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Collana	California Natural History Guides ; ; Number 109
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front matter -- CONTENTS -- Preface -- Acknowledgments -- INTRODUCTION -- FAMILY AND SPECIES ACCOUNTS -- BIRDING OPPORTUNITIES AND ROADSIDE NATURE CENTERS -- Occurrence Charts -- Glossary -- References -- Index -- ABOUT THE AUTHORS
Sommario/riassunto	The Northern California coast--from Monterey County to the Oregon border--is home to some of the richest avian habitats on the North American continent. Field Guide to Birds of the Northern California Coast provides a comprehensive ecological overview of this extensive and diverse region. It features detailed discussions of the area's most common water birds, raptors, and land birds and highlights the most productive birding sites in each Northern California coastal county. Accessibly written and user-friendly, this guide contains nearly 250 species accounts that focus on seasonal rhythms and behavioral characteristics of each species. More than 130 color photographs and hand-drawn sketches depict the birds in context, and maps and occurrence charts indicate when readers might spot each species.