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Nota di contenuto	The Animat Approach to Adaptive Behaviour -- Emotions as a Bridge to the Environment: On the Role of Body in Organisms and Robots -- Some Adaptive Advantages of the Ability to Make Predictions -- Perception and Motor Control -- Early Perceptual and Cognitive Development in Robot Vision -- Visual Control of Flight Speed and Height in the Honeybee -- Visual Learning of Affordance Based Cues -- Modelling the Peripheral Auditory System of Lizards -- A Model of Sensorimotor Coordination in the Rat Whisker System -- Biological Actuators Are Not Just Springs -- Investigation of Reality Constraints: Morphology and Controller of Two-Link Legged Locomotors for

Dynamically Stable Locomotion -- Synchronization and Gait Adaptation in Evolving Hexapod Robots -- Computer Simulation of a Climbing Insectomorphic Robot -- Adaptive Four Legged Locomotion Control Based on Nonlinear Dynamical Systems -- The Control of Turning in Real and Simulated Stick Insects -- Kinematic Modeling and Dynamic Analysis of the Long-Based Undulation Fin of Gymnarchus Niloticus -- An Environmental Adaptation Mechanism for a Biped Walking Robot Control Based on Elicitation of Sensorimotor Constraints -- Dynamic Generation and Switching of Object Handling Behaviors by a Humanoid Robot Using a Recurrent Neural Network Model -- Action Selection and Behavioral Sequences -- Distributed Action Selection by a Brainstem Neural Substrate: An Embodied Evaluation -- A Schema Based Model of the Praying Mantis -- Perceptual-Motor Sequence Learning Via Human-Robot Interaction -- Navigation and Internal World Models -- POTBUG: A Mind's Eye Approach to Providing BUG-Like Guarantees for Adaptive Obstacle Navigation Using Dynamic Potential Fields -- Navigation in Large-Scale Environments Using an Augmented Model of Visual Homing -- EvolutionaryActive Vision Toward Three Dimensional Landmark-Navigation -- Global Navigation Through Local Reference Frames -- Transition Cells for Navigation and Planning in an Unknown Environment -- Use Your Illusion: Sensorimotor Self-simulation Allows Complex Agents to Plan with Incomplete Self-knowledge -- Learning and Adaptation -- Stabilising Hebbian Learning with a Third Factor in a Food Retrieval Task -- Investigating STDP and LTP in a Spiking Neural Network -- Spike-Timing Dependent Plasticity Learning for Visual-Based Obstacles Avoidance -- An Adaptive Robot Motivational System -- Incremental Skill Acquisition for Self-motivated Learning Animats -- Piagetian Adaptation Meets Image Schemas: The Jean System -- A Model of Reaching that Integrates Reinforcement Learning and Population Encoding of Postures -- Combining Self-organizing Maps with Mixtures of Experts: Application to an Actor-Critic Model of Reinforcement Learning in the Basal Ganglia -- From Motor Babbling to Purposive Actions: Emerging Self-exploration in a Dynamical Systems Approach to Early Robot Development -- Modelling Multi-modal Learning in a Hawkmoth -- Adaptive Learning Application of the MDB Evolutionary Cognitive Architecture in Physical Agents -- Evolution -- Why Are Evolved Developing Organisms Also Fault-Tolerant? -- GasNets and CTRNNs – A Comparison in Terms of Evolvability -- Incremental Evolution of Robot Controllers for a Highly Integrated Task -- An Evolutionary Selection Model Based on a Biological Phenomenon: The Periodical Magicicadas -- Evolving Reaction-Diffusion Controllers for Minimally Cognitive Animats -- Emergence of Coherent Coordinated Behavior in a Network of Homogeneous Active Elements -- Searching for Emergent Representations in Evolved Dynamical Systems -- Modular Design of Irreducible Systems.-Spatially Constrained Networks and the Evolution of Modular Control Systems -- Evolving Spatiotemporal Coordination in a Modular Robotic System -- Spiking Neural Controllers for Pushing Objects Around -- Hierarchical Cooperative CoEvolution Facilitates the Redesign of Agent-Based Systems -- Bubbleworld.Evo: Artificial Evolution of Behavioral Decisions in a Simulated Predator-Prey Ecosystem -- Incremental Evolution of Target-Following Neuro-controllers for Flapping-Wing Animats -- Evolution and Adaptation of an Agent Driving a Scale Model of a Car with Obstacle Avoidance Capabilities -- Evolving Robot's Behavior by Using CNNs -- Collective and Social Behaviours -- Experimental Study on Task Teaching to Real Rats Through Interaction with a Robotic Rat -- Believability Testing and Bayesian Imitation in Interactive Computer Games -- Asynchronous Cyclic Pursuit -- Evolved Homogeneous

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Sommario/riassunto

This book constitutes the refereed proceedings of the 9th International Conference on Simulation of Adaptive Behavior, SAB 2006. The 35 revised full papers and 35 revised poster papers presented are organized in topical sections on the animat approach to adaptive behaviour, perception and motor control, action selection and behavioral sequences, navigation and internal world models, learning and adaptation, evolution, collective and social behaviours, applied adaptive behavior and more.