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Sommario/riassunto

Modern robotic technologies have enabled robots to operate in a variety of unstructured and dynamically-changing environments, in addition to traditional structured environments. Robots have, thus, become an important element in our everyday lives. One key approach to develop such intelligent and autonomous robots is to draw inspiration from biological systems. Biological structure, mechanisms, and underlying principles have the potential to provide new ideas to support the improvement of conventional robotic designs and control. Such biological principles usually originate from animal or even plant models, for robots, which can sense, think, walk, swim, crawl, jump or even fly. Thus, it is believed that these bio-inspired methods are becoming increasingly important in the face of complex applications. Bio-inspired robotics is leading to the study of innovative structures and computing with sensory-motor coordination and learning to achieve intelligence, flexibility, stability, and adaptation for emergent robotic applications, such as manipulation, learning, and control. This Special Issue invites original papers of innovative ideas and concepts, new discoveries and improvements, and novel applications and business models relevant to the selected topics of ``Bio-Inspired Robotics''. Bio-Inspired Robotics is a broad topic and an ongoing expanding field. This Special Issue collates 30 papers that address some of the important challenges and opportunities in this broad and expanding field.