

Insect-inspired technological innovations

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The understanding of functional principles of insect materials, structures, sensors, actuators, locomotion, and control systems is highly relevant for technical applications. Over one million described species are a great source for bio-inspiration. One of the greatest challenges for today's engineering science – miniaturization, has been solved by insects during their evolution. Insect solutions may be applied in one of two main approaches: (1) The development of insect-inspired technology, (2) Hybrid bio-synthetic and bio-robotic systems. A few selected examples from our own research will be discussed in this presentation.