

BIONETICS 2009

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UNIVERSITÉ D'AVIGNON
ET DES PAYS DE VAUCLUSE

4th International Conference on Bio-Inspired Models of Network, Information, and Computer Systems



Technology is taking us to a world where myriad of heavily networked devices interact with the physical world in multiple ways, and at multiple scales, from the global Internet scale down to micro and nano-devices. Many of these devices are highly mobile and autonomous, and must adapt to the surrounding environment in a totally unsupervised way. The fundamental research challenge is the design of robust decentralised computing systems, capable of operating under changing environments and noisy input, and yet exhibit the desired behaviour and response time, under constraints such as energy consumption, size, and processing power. These systems should be able to adapt and learn how to react to unforeseen scenarios as well as to display properties comparable to social entities.

Biological systems are able to handle many of these challenges with an elegance and efficiency still far beyond current human artefacts. Based on this observation, bio-inspired approaches have been proposed in the past years as a strategy to handle the complexity of such systems. The goal is to obtain methods on how to engineer technical solutions which have similar high stability and efficiency as biological entities often have.

The BIONETICS conference aims at bringing together researchers and scientists from several disciplines in computer science and engineering where bio-inspired methods are investigated. We are soliciting high-quality original papers in the following areas including but not limited to these topics:

- Bio-Inspired mathematical models, methods and tools
- Bio-inspired algorithms and mechanism
- Bio-inspired technical systems
- Bio-inspired information and communication systems (ICT)