

## **Hybrid Intelligent Techniques in Autonomous Complex Systems**

### **Abstract**

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The complexity of physical infrastructures, the progress of knowledge in the computational intelligence and the increasing integration of computers, communications and control strategies with physical processes have imposed a new vision on intelligent complex systems.

The paper presents some architectures of autonomous complex systems where the synergy of the intelligent methodology is thoroughly exploited.

There are presented some hybrid architectures as: neuro-fuzzy, geno-fuzzy, geno-neuro-fuzzy and their real impact on the control performances for different types of applications.

There are also presented some results in the fields of robotics and intelligent manufacturing.

A special attention is paid to the connections between computational intelligence and the new paradigm of Intelligent Complex Cyber-Physical Systems.

There are underlined some new research directions on these advanced integrative technologies: computes, communication, control and cognition, deeply enabled in physical systems.