

1. PREDICTIVE CONTROL AND HEURISTIC OPTIMIZATION GROUP (CPOH)

The **Predictive Control and Heuristic Optimization Group (CPOH)** belongs to the [Instituto Universitario de Automática e Informática Industrial \(ai2\)](#) of the [Universitat Politecnica de Valencia UPV](#) (Spain). Since 1995, the group works on issues related to model predictive control and optimization applied to process control, mainly using heuristic techniques. Currently CPOH teaching activity is part of the Systems Engineering and Automation Department (DISA). All group members are Computer Science engineers, Control engineers and Industrial Engineers, all of them professors and associate professors at the [School of Industrial Engineering](#) and the [School of Engineering Design](#).

With a know-how and deep scientific and technological skills in computer science, control engineering and artificial intelligence, we produce results in various industrial areas by forming multidisciplinary teams with individuals who have the most experience of the problems to be tackled, and we bring our technology and research experience to industries as diverse as farming, chemicals, and energy.

We offer positions to research in the following areas:

- **Model predictive control (stochastic, robust, industrial)**
- **Evolutionary algorithms for multiobjective optimization**
- **Reinforcement Learning for control engineering**
- **Real time optimization algorithms for industry applications**
- **Application of computational intelligence techniques in systems engineering and automation**

Our last projects are related to control and optimization of industrial hybrid energy systems (intelligent algorithms for energy management systems or EMS) and efficient management, control and optimization of energy systems based on hydrogen fuel cells for household and mobile applications.

The candidates will be integrated in one or more research lines with direct application to energy projects.

For more information about our recent scientific publications, research projects and transfer technology projects, visit our web page:

<https://cpoh.upv.es/?lang=en>

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