



CENTRE FOR AUTOMATION AND ROBOTICS (CAR) CSIC-UPM



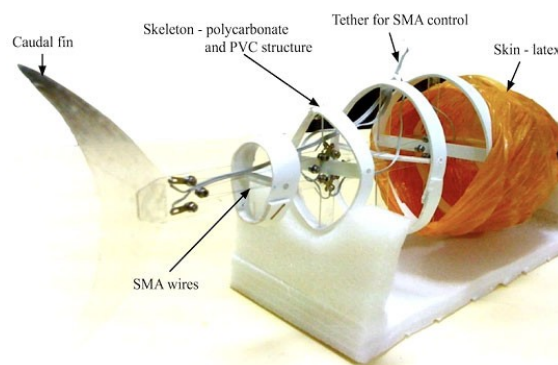
The Centre for Automation and Robotics (CAR) is a joint research center of the Spanish Council for Scientific Research (CSIC) and the Universidad Politécnica de Madrid (UPM). The main objective of CAR is to develop applied research which aims at offering useful results for the society in the field of Robotics and Automation. CAR is very well positioned in order to lead its ambitious research program, putting research on the areas of Control, Robotics and Artificial Perception at their highest level. More than one hundred researchers work at CAR and their activities are focused on the following scientific-technological areas: Control Engineering, Artificial Perception, Intelligent Robots and Applied Robotics.

The work carried out at CAR is funded by research agreements with private companies and by competitive institutional programs, both national and international, such as the European Commission, National Plan for R&D+I, Madrid Regional Government and AECID, among others. These activities lead to a large number of collaborations with private companies and other research centers.

The research activity of CAR is strategically linked to the training of UPM postgraduate students. It includes Master Degree and Doctorate Degree Programs in Automation and Robotics.

The Centre for Automation and Robotics (CAR) has two premises:

- CSIC headquarters in Arganda del Rey (Madrid), and
- UPM headquarters at the E.T.S. Ing. Industriales, Madrid.



Contact

CAR (CSIC headquarters)

Ctra. Campo Real, Km. 0,200
28500 Arganda del Rey (Madrid), Spain.
Tel.: +34 91 871 19 00, Fax: +34 91 871 70 50

CAR (UPM headquarters)

Escuela Técnica Superior de Ingenieros Industriales
Calle José Gutiérrez Abascal, 2
28006 Madrid, Spain.
Tel.: +34 91 336 30 61, Fax: +34 91 336 30 10

www.car.upm-csic.es

RESEARCH UNITS AND GROUPS



INTELLIGENT ROBOTICS

The activities of this research group are oriented to broaden the methodologies for the development and control of robots and special machines by using the know-how derived from artificial intelligence. Its aim is to design and build high-performance robots, machines and systems for different applications. The research groups focused on this area are:

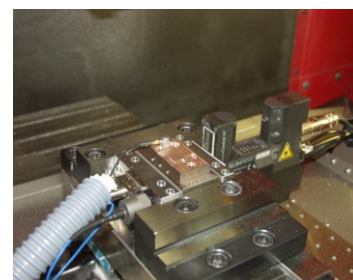
- **AUTOPIA- Automated Driving of Vehicles.**
- **Computational Cognitive Robotics.**
- **Robots and Intelligent Machines.**



APPLIED ROBOTICS

This research unit is focused on the design and conception of new service robotics applications. The main objective is to obtain more efficient solutions in the field of Robotics for different applications of service robots. Research groups focused on this area are:

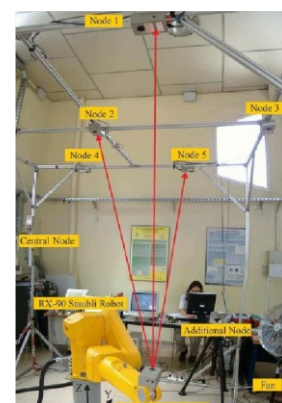
- **Service Robotics.**
- **Robotics and Cybernetics.**



SUPERVISION AND INTELLIGENT CONTROL

The purpose of this research unit is to promote and develop new scientific-technical methods and advanced strategies within the integration of computational science and intelligent control in order to generate new scientific knowledge and techniques. It also aims at the optimization of behavior that will lead to short, medium and long term improvement of wide range of processes and systems. Research groups focused on this area are:

- **Intelligent Control.**
- **Intelligent Automation of Manufacturing Processes.**



PERCEPTION

The major challenge of artificial perception systems is to process and exploit the vast amount of information about the environment provided by sensory devices. That is the reason why the research unit on Perception involves processing methods using innovative signal as well as designing special sensors that adequately capture reality data of an environment. Research groups focused on this unit are:

- **Computer Vision.**
- **Artificial Perception.**
- **Autonomous System.**
- **Intelligent Systems Localization and Exploration.**

