

# Automar network



Some of the participants of the *Jornadas Automar 2008*

Automar is a research network in automatic control and robotics for the marine industry and marine sciences. Automar brings together scholars from universities and research centres, encouraging knowledge exchange, training and cooperation among the different members of the scientific and industrial community. To that end, the members of the network organize scientific and technical meetings, courses, tutorials and conferences on a regular basis.

Since its initial steps in 2002, Automar has organized more than ten events, promoting scientific education or cooperation and disseminating know-how among its partners, industrial companies and marine technology end-users. Throughout that time, the size of the network has progressively expanded to include more than fifteen research groups.

In September 2008, around forty researchers and students attended the *Jornadas Automar*, a three-day event held at the Universitat de les Illes Balears campus, in Palma (Spain). The first day Prof. Carlos F. Silvestre, from the *Instituto Superior Técnico* of Lisbon, conducted a tutorial about the design of tracking controllers for unmanned vehicles. During the second and third days, both researchers and PhD students presented twenty-one research and development projects.

In this issue, the reader will find some of the research works presented during the above-mentioned Automar meeting. The original manuscripts of the selected papers were extended and adapted to meet the JMR publication guidelines. They were additionally reviewed by an ad-hoc technical committee. As a matter of fact, the present selection does not intend to cover all the top-

ics in marine robotics and automation. Still, it can be considered representative of Automar partners' activity.

Four papers focus on AUV design and applications, probably one of the more dynamic and challenging areas at the moment. Sousa et al. present the design and preliminary results of a low-cost AUV for acoustic inspection. Researchers at the Technical University of Catalonia in Vilanova describe an autonomous hybrid (surface/underwater) vehicle as a solution for intensive vertical profile logging in oceanographic systems. Gliders are also extensively used in many oceanographic tasks and thus the paper from researchers at IMEDEA-CSIC proposes a path-planning strategy that uses large-scale current fields information to optimize power consumption and guarantee the completion of long-term missions with that type of vehicles. Ortiz and Antich present a new solution, based on particle filters, for visual vehicle guidance in underwater cable inspection. The article authored by Moreno et al. focuses on the path following control of an unmanned surface vehicle, which is a highly relevant and top-

ical issue in autonomous navigation. Last but not least, researchers from Universities of A Coruña and Cádiz present a new methodology to ensure sensor fault detection and isolation applied to the thruster equipment of a dynamic positioning control system.

To end with, I would like to thank all the individuals and institutions that made this Special Issue of JMR possible. I remain indebted to all the members of the research groups involved in the Automar network for actively participating in this fruitful experience and to the University of Balearic Islands for hosting the *Jornadas*. Thanks are also due to the authors for their contributions and to the reviewers for their interest and efficient fulfilment of all the requirements in the submission process. Finally, my gratitude goes to people from the *Journal of Maritime Research*, who have provided us with constant guidance and support.

A special mention should be made to the Spanish Ministry of Education and Science for funding Automar network activities with the project DPI2006-28345-E.

**Gabriel Oliver Codina**

*DPI2006-28435-E Project Leader*